

(51) International Patent Classification 7 :

C12N 15/12, C07K 14/47, C12Q 1/68,
A61K 39/395, G01N 33/68, 33/574, C07K
16/30, C12N 15/62, 5/02 // A61P 35/00

A

(11) International Publication Number:

WO 00/04149

(43) International Publication Date:

27 January 2000 (27.01.00)

(21) International Application Number: PCT/US99/15838

(22) International Filing Date: 14 July 1999 (14.07.99)

(30) Priority Data:

09/115,453	14 July 1998 (14.07.98)	US
09/116,134	14 July 1998 (14.07.98)	US
09/159,822	23 September 1998 (23.09.98)	US
09/159,812	23 September 1998 (23.09.98)	US
09/232,880	15 January 1999 (15.01.99)	US
09/232,149	15 January 1999 (15.01.99)	US
09/288,946	9 April 1999 (09.04.99)	US

(71) Applicant: CORIXA CORPORATION [US/US]; Suite 200,
1124 Columbia Street, Seattle, WA 98104 (US).(72) Inventors: DILLON, Davin, Clifford; 21607 N.E. 24th Street,
Redmond, WA 98053 (US). HARLOCKER, Susan, Louise;
6203 20th Avenue N.W., Seattle, WA 98107 (US). YUQIU,
Jiang; 5001 South 232nd Street, Kent, WA 98032 (US). XU,
Jiangchun; 15805 S.E. 43rd Place, Bellevue, WA 98006
(US). MITCHAM, Jennifer, Lynn; 16677 Northeast 88th
Street, Redmond, WA 98052 (US).(74) Agents: MAKI, David, J. et al.; Seed and Berry LLP, 6300
Columbia, 701 Fifth Avenue, Seattle, WA 98104-7092
(US).(53) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG,
BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB,
GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG,
KP, KR, KZ, LC, LK, LR, LU, LT, LU, LV, MD, MG, MK,
MN, MW, MX, NO, NZ, PA, PT, RO, RU, SD, SE, SG, SI,
SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW,
ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG,
ZW), Eurasian patent (AM, BY, KG, KZ, MD, RU, TJ,
TM), European patent (AT, CH, CY, DE, DK, ES, FI,
FR, GB, GR, IE, IT, LU, NL, PT, SE), OAPI patent
(BF, BJ, CF, CG, CI, CM, GN, GW, ML, MR, NE,
SN, TD, TG).

Published

Without international search report and to be republished
upon receipt of that report.

(54) Title: COMPOSITIONS AND METHODS FOR THERAPY AND DIAGNOSIS OF PROSTATE CANCER

(57) Abstract

Compositions and methods for the therapy and diagnosis of cancer, such as prostate cancer, are disclosed. Compositions may comprise one or more prostate tumor proteins, immunogenic portions thereof, or polynucleotides that encode such portions. Alternatively, a therapeutic composition may comprise an antigen presenting cell that expresses a prostate tumor protein, or a T cell that is specific for cells expressing such a protein. Such compositions may be used, for example, for the prevention and treatment of diseases such as prostate cancer. Diagnostic methods based on detecting a prostate tumor protein, or mRNA encoding such a protein, in a sample are also provided.

09/895 8/4

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
AU	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav Republic of Macedonia	TM	Turkmenistan
BF	Burkina Faso	GR	Greece			TR	Turkey
BG	Bulgaria	HU	Hungary	ML	Mali	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MN	Mongolia	UA	Ukraine
BR	Brazil	IL	Israel	MR	Mauritania	UG	Uganda
BY	Belarus	IS	Iceland	MW	Malawi	US	United States of America
CA	Canada	IT	Italy	MX	Mexico	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NE	Niger	VN	Viet Nam
CG	Congo	KE	Kenya	NL	Netherlands	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NO	Norway	ZW	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's Republic of Korea	NZ	New Zealand		
CM	Cameroon			PL	Poland		
CN	China	KR	Republic of Korea	PT	Portugal		
CU	Cuba	KZ	Kazakstan	RO	Romania		
CZ	Czech Republic	LC	Saint Lucia	RU	Russian Federation		
DE	Germany	LI	Liechtenstein	SD	Sudan		
DK	Denmark	LK	Sri Lanka	SE	Sweden		
EE	Estonia	LR	Liberia	SG	Singapore		

COMPOSITIONS AND METHODS FOR THERAPY AND DIAGNOSIS OF PROSTATE CANCER

TECHNICAL FIELD

The present invention relates generally to therapy and diagnosis of cancer, such as prostate cancer. The invention is more specifically related to polypeptides comprising at least a portion of a prostate tumor protein, and to polynucleotides encoding such polypeptides. Such polypeptides and polynucleotides may be used in vaccines and pharmaceutical compositions for prevention and treatment of prostate cancer, and for the diagnosis and monitoring of such cancers.

BACKGROUND OF THE INVENTION

Prostate cancer is the most common form of cancer among males, with an estimated incidence of 30% in men over the age of 50. Overwhelming clinical evidence shows that human prostate cancer has the propensity to metastasize to bone, and the disease appears to progress inevitably from androgen dependent to androgen refractory status, leading to increased patient mortality. This prevalent disease is currently the second leading cause of cancer death among men in the U.S.

In spite of considerable research into therapies for the disease, prostate cancer remains difficult to treat. Commonly, treatment is based on surgery and/or radiation therapy, but these methods are ineffective in a significant percentage of cases. Two previously identified prostate specific proteins - prostate specific antigen (PSA) and prostatic acid phosphatase (PAP) - have limited therapeutic and diagnostic potential. For example, PSA levels do not always correlate well with the presence of prostate cancer, being positive in a percentage of non-prostate cancer cases, including benign prostatic hyperplasia (BPH). Furthermore, PSA measurements correlate with prostate volume, and do not indicate the level of metastasis.

In spite of considerable research into therapies for these and other cancers, prostate cancer remains difficult to diagnose and treat effectively. Accordingly, there is a need in the art for improved methods for detecting and treating such cancers. The present invention fulfills these needs and further provides other related advantages.

SUMMARY OF THE INVENTION

Briefly stated, the present invention provides compositions and methods for the diagnosis and therapy of cancer, such as prostate cancer. In one aspect, the present

invention provides polypeptides comprising at least a portion of a prostate tumor protein, or a variant thereof. Certain portions and other variants are immunogenic, such that the ability of the variant to react with antigen-specific antisera is not substantially diminished. Within certain embodiments, the polypeptide comprises at least an immunogenic portion of a prostate tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of: (a) sequences recited in any one of SEQ ID NOs: 1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472; (b) sequences that hybridize to any of the foregoing sequences under moderately stringent conditions; and (c) complements of any of the sequence of (a) or (b). In certain specific embodiments, such a polypeptide comprises at least a portion, or variant thereof, of a tumor protein that includes an amino acid sequence selected from the group consisting of sequences recited in any one of SEQ ID NO: 112-114, 172, 176, 178, 327, 329, 331, 336, 339, 376-380 and 383.

The present invention further provides polynucleotides that encode a polypeptide as described above, or a portion thereof (such as a portion encoding at least 15 amino acid residues of a prostate tumor protein), expression vectors comprising such polynucleotides and host cells transformed or transfected with such expression vectors.

Within other aspects, the present invention provides pharmaceutical compositions comprising a polypeptide or polynucleotide as described above and a physiologically acceptable carrier.

Within a related aspect of the present invention, vaccines are provided. Such vaccines comprise a polypeptide or polynucleotide as described above and a non-specific immune response enhancer.

The present invention further provides pharmaceutical compositions that comprise: (a) an antibody or antigen-binding fragment thereof that specifically binds to a prostate tumor protein; and (b) a physiologically acceptable carrier.

Within further aspects, the present invention provides pharmaceutical compositions comprising: (a) an antigen presenting cell that expresses a polypeptide as described above and (b) a pharmaceutically acceptable carrier or excipient. Antigen presenting cells include dendritic cells, macrophages, monocytes, fibroblasts and B cells.

Within related aspects, vaccines are provided that comprise: (a) an antigen presenting cell that expresses a polypeptide as described above and (b) a non-specific immune response enhancer.

The present invention further provides, in other aspects, fusion proteins that comprise at least one polypeptide as described above, as well as polynucleotides encoding such fusion proteins.

Within related aspects, pharmaceutical compositions comprising a fusion protein, or a polynucleotide encoding a fusion protein, in combination with a physiologically acceptable carrier are provided.

Vaccines are further provided, within other aspects, that comprise a fusion protein, or a polynucleotide encoding a fusion protein, in combination with a non-specific immune response enhancer.

Within further aspects, the present invention provides methods for inhibiting the development of a cancer in a patient, comprising administering to a patient a pharmaceutical composition or vaccine as recited above.

The present invention further provides, within other aspects, methods for removing tumor cells from a biological sample, comprising contacting a biological sample with T cells that specifically react with a prostate tumor protein, wherein the step of contacting is performed under conditions and for a time sufficient to permit the removal of cells expressing the protein from the sample.

Within related aspects, methods are provided for inhibiting the development of a cancer in a patient, comprising administering to a patient a biological sample treated as described above.

Methods are further provided, within other aspects, for stimulating and/or expanding T cells specific for a prostate tumor protein, comprising contacting T cells with one or more of: (i) a polypeptide as described above; (ii) a polynucleotide encoding such a polypeptide; and/or (iii) an antigen presenting cell that expresses such a polypeptide; under conditions and for a time sufficient to permit the stimulation and/or expansion of T cells. Isolated T cell populations comprising T cells prepared as described above are also provided.

Within further aspects, the present invention provides methods for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a T cell population as described above.

The present invention further provides methods for inhibiting the development of a cancer in a patient, comprising the steps of: (a) incubating CD4⁺ and/or CD8⁺ T cells isolated from a patient with one or more of: (i) a polypeptide comprising at least an immunogenic portion of a prostate tumor protein; (ii) a polynucleotide encoding such a polypeptide; and (iii) an antigen-presenting cell that expressed such a polypeptide; and (b) administering to the patient an effective amount of the proliferated T cells, and thereby inhibiting the development of a cancer in the patient. Proliferated cells may, but need not, be cloned prior to administration to the patient.

Within further aspects, the present invention provides methods for determining the presence or absence of a cancer in a patient, comprising: (a) contacting a biological sample obtained from a patient with a binding agent that binds to a polypeptide as recited

above; (b) detecting in the sample an amount of polypeptide that binds to the binding agent; and (c) comparing the amount of polypeptide with a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient. Within preferred embodiments, the binding agent is an antibody, more preferably a monoclonal antibody. The cancer may be prostate cancer.

The present invention also provides, within other aspects, methods for monitoring the progression of a cancer in a patient. Such methods comprise the steps of: (a) contacting a biological sample obtained from a patient at a first point in time with a binding agent that binds to a polypeptide as recited above; (b) detecting in the sample an amount of polypeptide that binds to the binding agent; (c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and (d) comparing the amount of polypeptide detected in step (c) with the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

The present invention further provides, within other aspects, methods for determining the presence or absence of a cancer in a patient, comprising the steps of: (a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a prostate tumor protein; (b) detecting in the sample a level of a polynucleotide, preferably mRNA, that hybridizes to the oligonucleotide; and (c) comparing the level of polynucleotide that hybridizes to the oligonucleotide with a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient. Within certain embodiments, the amount of mRNA is detected via polymerase chain reaction using, for example, at least one oligonucleotide primer that hybridizes to a polynucleotide encoding a polypeptide as recited above, or a complement of such a polynucleotide. Within other embodiments, the amount of mRNA is detected using a hybridization technique, employing an oligonucleotide probe that hybridizes to a polynucleotide that encodes a polypeptide as recited above, or a complement of such a polynucleotide.

In related aspects, methods are provided for monitoring the progression of a cancer in a patient, comprising the steps of: (a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a prostate tumor protein; (b) detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide; (c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and (d) comparing the amount of polynucleotide detected in step (c) with the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

Within further aspects, the present invention provides antibodies, such as monoclonal antibodies, that bind to a polypeptide as described above, as well as diagnostic

kits comprising such antibodies. Diagnostic kits comprising one or more oligonucleotide probes or primers as described above are also provided.

These and other aspects of the present invention will become apparent upon reference to the following detailed description and attached drawings. All references disclosed herein are hereby incorporated by reference in their entirety as if each was incorporated individually.

BRIEF DESCRIPTION OF THE DRAWINGS AND SEQUENCE IDENTIFIERS

Figure 1 illustrates the ability of T cells to kill fibroblasts expressing the representative prostate tumor polypeptide P502S, as compared to control fibroblasts. The percentage lysis is shown as a series of effector:target ratios, as indicated.

Figures 2A and 2B illustrate the ability of T cells to recognize cells expressing the representative prostate tumor polypeptide P502S. In each case, the number of γ -interferon spots is shown for different numbers of responders. In Figure 2A, data is presented for fibroblasts pulsed with the P2S-12 peptide, as compared to fibroblasts pulsed with a control E75 peptide. In Figure 2B, data is presented for fibroblasts expressing P502S, as compared to fibroblasts expressing HER-2/*neu*.

Figure 3 represents a peptide competition binding assay showing that the P1S#10 peptide, derived from P501S, binds HLA-A2. Peptide P1S#10 inhibits HLA-A2 restricted presentation of fluM58 peptide to CTL clone D150M58 in TNF release bioassay. D150M58 CTL is specific for the HLA-A2 binding influenza matrix peptide fluM58.

Figure 4 illustrates the ability of T cell lines generated from P1S#10 immunized mice to specifically lyse P1S#10-pulsed Jurkat A2Kb targets and P501S-transduced Jurkat A2Kb targets, as compared to EGFP-transduced Jurkat A2Kb. The percent lysis is shown as a series of effector to target ratios, as indicated.

Figure 5 illustrates the ability of a T cell clone to recognize and specifically lyse Jurkat A2Kb cells expressing the representative prostate tumor polypeptide P501S, thereby demonstrating that the P1S#10 peptide may be a naturally processed epitope of the P501S polypeptide.

Figures 6A and 6B are graphs illustrating the specificity of a CD8⁺ cell line (3A-1) for a representative prostate tumor antigen (P501S). Figure 6A shows the results of a ⁵¹Cr release assay. The percent specific lysis is shown as a series of effector:target ratios, as indicated. Figure 6B shows the production of interferon-gamma by 3A-1 cells stimulated with autologous B-LCL transduced with P501S, at varying effector:target ratios as indicated.

SEQ ID NO: 1 is the determined cDNA sequence for F1-13

SEQ ID NO: 2 is the determined 3' cDNA sequence for F1-12

SEQ ID NO: 3 is the determined 5' cDNA sequence for F1-12
SEQ ID NO: 4 is the determined 3' cDNA sequence for F1-16
SEQ ID NO: 5 is the determined 3' cDNA sequence for H1-1
SEQ ID NO: 6 is the determined 3' cDNA sequence for H1-9
SEQ ID NO: 7 is the determined 3' cDNA sequence for H1-4
SEQ ID NO: 8 is the determined 3' cDNA sequence for J1-17
SEQ ID NO: 9 is the determined 5' cDNA sequence for J1-17
SEQ ID NO: 10 is the determined 3' cDNA sequence for L1-12
SEQ ID NO: 11 is the determined 5' cDNA sequence for L1-12
SEQ ID NO: 12 is the determined 3' cDNA sequence for N1-1862
SEQ ID NO: 13 is the determined 5' cDNA sequence for N1-1862
SEQ ID NO: 14 is the determined 3' cDNA sequence for J1-13
SEQ ID NO: 15 is the determined 5' cDNA sequence for J1-13
SEQ ID NO: 16 is the determined 3' cDNA sequence for J1-19
SEQ ID NO: 17 is the determined 5' cDNA sequence for J1-19
SEQ ID NO: 18 is the determined 3' cDNA sequence for J1-25
SEQ ID NO: 19 is the determined 5' cDNA sequence for J1-25
SEQ ID NO: 20 is the determined 5' cDNA sequence for J1-24
SEQ ID NO: 21 is the determined 3' cDNA sequence for J1-24
SEQ ID NO: 22 is the determined 5' cDNA sequence for K1-58
SEQ ID NO: 23 is the determined 3' cDNA sequence for K1-58
SEQ ID NO: 24 is the determined 5' cDNA sequence for K1-63
SEQ ID NO: 25 is the determined 3' cDNA sequence for K1-63
SEQ ID NO: 26 is the determined 5' cDNA sequence for L1-4
SEQ ID NO: 27 is the determined 3' cDNA sequence for L1-4
SEQ ID NO: 28 is the determined 5' cDNA sequence for L1-14
SEQ ID NO: 29 is the determined 3' cDNA sequence for L1-14
SEQ ID NO: 30 is the determined 3' cDNA sequence for J1-12
SEQ ID NO: 31 is the determined 3' cDNA sequence for J1-16
SEQ ID NO: 32 is the determined 3' cDNA sequence for J1-21
SEQ ID NO: 33 is the determined 3' cDNA sequence for K1-48
SEQ ID NO: 34 is the determined 3' cDNA sequence for K1-55
SEQ ID NO: 35 is the determined 3' cDNA sequence for L1-2
SEQ ID NO: 36 is the determined 3' cDNA sequence for L1-6
SEQ ID NO: 37 is the determined 3' cDNA sequence for N1-1858
SEQ ID NO: 38 is the determined 3' cDNA sequence for N1-1860
SEQ ID NO: 39 is the determined 3' cDNA sequence for N1-1861

SEQ ID NO: 40 is the determined 3' cDNA sequence for N1-1864
SEQ ID NO: 41 is the determined cDNA sequence for P5
SEQ ID NO: 42 is the determined cDNA sequence for P8
SEQ ID NO: 43 is the determined cDNA sequence for P9
SEQ ID NO: 44 is the determined cDNA sequence for P18
SEQ ID NO: 45 is the determined cDNA sequence for P20
SEQ ID NO: 46 is the determined cDNA sequence for P29
SEQ ID NO: 47 is the determined cDNA sequence for P30
SEQ ID NO: 48 is the determined cDNA sequence for P34
SEQ ID NO: 49 is the determined cDNA sequence for P36
SEQ ID NO: 50 is the determined cDNA sequence for P38
SEQ ID NO: 51 is the determined cDNA sequence for P39
SEQ ID NO: 52 is the determined cDNA sequence for P42
SEQ ID NO: 53 is the determined cDNA sequence for P47
SEQ ID NO: 54 is the determined cDNA sequence for P49
SEQ ID NO: 55 is the determined cDNA sequence for P50
SEQ ID NO: 56 is the determined cDNA sequence for P53
SEQ ID NO: 57 is the determined cDNA sequence for P55
SEQ ID NO: 58 is the determined cDNA sequence for P60
SEQ ID NO: 59 is the determined cDNA sequence for P64
SEQ ID NO: 60 is the determined cDNA sequence for P65
SEQ ID NO: 61 is the determined cDNA sequence for P73
SEQ ID NO: 62 is the determined cDNA sequence for P75
SEQ ID NO: 63 is the determined cDNA sequence for P76
SEQ ID NO: 64 is the determined cDNA sequence for P79
SEQ ID NO: 65 is the determined cDNA sequence for P84
SEQ ID NO: 66 is the determined cDNA sequence for P68
SEQ ID NO: 67 is the determined cDNA sequence for P80
SEQ ID NO: 68 is the determined cDNA sequence for P82
SEQ ID NO: 69 is the determined cDNA sequence for U1-3064
SEQ ID NO: 70 is the determined cDNA sequence for U1-3065
SEQ ID NO: 71 is the determined cDNA sequence for V1-3692
SEQ ID NO: 72 is the determined cDNA sequence for 1A-3905
SEQ ID NO: 73 is the determined cDNA sequence for V1-3686
SEQ ID NO: 74 is the determined cDNA sequence for R1-2330
SEQ ID NO: 75 is the determined cDNA sequence for 1B-3976
SEQ ID NO: 76 is the determined cDNA sequence for V1-3679

SEQ ID NO: 77 is the determined cDNA sequence for 1G-4736
SEQ ID NO: 78 is the determined cDNA sequence for 1G-4738
SEQ ID NO: 79 is the determined cDNA sequence for 1G-4741
SEQ ID NO: 80 is the determined cDNA sequence for 1G-4744
SEQ ID NO: 81 is the determined cDNA sequence for 1G-4734
SEQ ID NO: 82 is the determined cDNA sequence for 1H-4774
SEQ ID NO: 83 is the determined cDNA sequence for 1H-4781
SEQ ID NO: 84 is the determined cDNA sequence for 1H-4785
SEQ ID NO: 85 is the determined cDNA sequence for 1H-4787
SEQ ID NO: 86 is the determined cDNA sequence for 1H-4796
SEQ ID NO: 87 is the determined cDNA sequence for 1I-4807
SEQ ID NO: 88 is the determined cDNA sequence for 1I-4810
SEQ ID NO: 89 is the determined cDNA sequence for 1I-4811
SEQ ID NO: 90 is the determined cDNA sequence for 1J-4876
SEQ ID NO: 91 is the determined cDNA sequence for 1K-4884
SEQ ID NO: 92 is the determined cDNA sequence for 1K-4896
SEQ ID NO: 93 is the determined cDNA sequence for 1G-4761
SEQ ID NO: 94 is the determined cDNA sequence for 1G-4762
SEQ ID NO: 95 is the determined cDNA sequence for 1H-4766
SEQ ID NO: 96 is the determined cDNA sequence for 1H-4770
SEQ ID NO: 97 is the determined cDNA sequence for 1H-4771
SEQ ID NO: 98 is the determined cDNA sequence for 1H-4772
SEQ ID NO: 99 is the determined cDNA sequence for 1D-4297
SEQ ID NO: 100 is the determined cDNA sequence for 1D-4309
SEQ ID NO: 101 is the determined cDNA sequence for 1D.1-4278
SEQ ID NO: 102 is the determined cDNA sequence for 1D-4288
SEQ ID NO: 103 is the determined cDNA sequence for 1D-4283
SEQ ID NO: 104 is the determined cDNA sequence for 1D-4304
SEQ ID NO: 105 is the determined cDNA sequence for 1D-4296
SEQ ID NO: 106 is the determined cDNA sequence for 1D-4280
SEQ ID NO: 107 is the determined full length cDNA sequence for F1-12 (also referred to as P504S)
SEQ ID NO: 108 is the predicted amino acid sequence for F1-12
SEQ ID NO: 109 is the determined full length cDNA sequence for J1-17
SEQ ID NO: 110 is the determined full length cDNA sequence for L1-12
SEQ ID NO: 111 is the determined full length cDNA sequence for N1-1862
SEQ ID NO: 112 is the predicted amino acid sequence for J1-17

SEQ ID NO: 113 is the predicted amino acid sequence for L1-12
SEQ ID NO: 114 is the predicted amino acid sequence for N1-1862
SEQ ID NO: 115 is the determined cDNA sequence for P89
SEQ ID NO: 116 is the determined cDNA sequence for P90
SEQ ID NO: 117 is the determined cDNA sequence for P92
SEQ ID NO: 118 is the determined cDNA sequence for P95
SEQ ID NO: 119 is the determined cDNA sequence for P98
SEQ ID NO: 120 is the determined cDNA sequence for P102
SEQ ID NO: 121 is the determined cDNA sequence for P110
SEQ ID NO: 122 is the determined cDNA sequence for P111
SEQ ID NO: 123 is the determined cDNA sequence for P114
SEQ ID NO: 124 is the determined cDNA sequence for P115
SEQ ID NO: 125 is the determined cDNA sequence for P116
SEQ ID NO: 126 is the determined cDNA sequence for P124
SEQ ID NO: 127 is the determined cDNA sequence for P126
SEQ ID NO: 128 is the determined cDNA sequence for P130
SEQ ID NO: 129 is the determined cDNA sequence for P133
SEQ ID NO: 130 is the determined cDNA sequence for P138
SEQ ID NO: 131 is the determined cDNA sequence for P143
SEQ ID NO: 132 is the determined cDNA sequence for P151
SEQ ID NO: 133 is the determined cDNA sequence for P156
SEQ ID NO: 134 is the determined cDNA sequence for P157
SEQ ID NO: 135 is the determined cDNA sequence for P166
SEQ ID NO: 136 is the determined cDNA sequence for P176
SEQ ID NO: 137 is the determined cDNA sequence for P178
SEQ ID NO: 138 is the determined cDNA sequence for P179
SEQ ID NO: 139 is the determined cDNA sequence for P185
SEQ ID NO: 140 is the determined cDNA sequence for P192
SEQ ID NO: 141 is the determined cDNA sequence for P201
SEQ ID NO: 142 is the determined cDNA sequence for P204
SEQ ID NO: 143 is the determined cDNA sequence for P208
SEQ ID NO: 144 is the determined cDNA sequence for P211
SEQ ID NO: 145 is the determined cDNA sequence for P213
SEQ ID NO: 146 is the determined cDNA sequence for P219
SEQ ID NO: 147 is the determined cDNA sequence for P237
SEQ ID NO: 148 is the determined cDNA sequence for P239
SEQ ID NO: 149 is the determined cDNA sequence for P248

SEQ ID NO: 150 is the determined cDNA sequence for P251
SEQ ID NO: 151 is the determined cDNA sequence for P255
SEQ ID NO: 152 is the determined cDNA sequence for P256
SEQ ID NO: 153 is the determined cDNA sequence for P259
SEQ ID NO: 154 is the determined cDNA sequence for P260
SEQ ID NO: 155 is the determined cDNA sequence for P263
SEQ ID NO: 156 is the determined cDNA sequence for P264
SEQ ID NO: 157 is the determined cDNA sequence for P266
SEQ ID NO: 158 is the determined cDNA sequence for P270
SEQ ID NO: 159 is the determined cDNA sequence for P272
SEQ ID NO: 160 is the determined cDNA sequence for P278
SEQ ID NO: 161 is the determined cDNA sequence for P105
SEQ ID NO: 162 is the determined cDNA sequence for P107
SEQ ID NO: 163 is the determined cDNA sequence for P137
SEQ ID NO: 164 is the determined cDNA sequence for P194
SEQ ID NO: 165 is the determined cDNA sequence for P195
SEQ ID NO: 166 is the determined cDNA sequence for P196
SEQ ID NO: 167 is the determined cDNA sequence for P220
SEQ ID NO: 168 is the determined cDNA sequence for P234
SEQ ID NO: 169 is the determined cDNA sequence for P235
SEQ ID NO: 170 is the determined cDNA sequence for P243
SEQ ID NO: 171 is the determined cDNA sequence for P703P-DE1
SEQ ID NO: 172 is the predicted amino acid sequence for P703P-DE1
SEQ ID NO: 173 is the determined cDNA sequence for P703P-DE2
SEQ ID NO: 174 is the determined cDNA sequence for P703P-DE6
SEQ ID NO: 175 is the determined cDNA sequence for P703P-DE13
SEQ ID NO: 176 is the predicted amino acid sequence for P703P-DE13
SEQ ID NO: 177 is the determined cDNA sequence for P703P-DE14
SEQ ID NO: 178 is the predicted amino acid sequence for P703P-DE14
SEQ ID NO: 179 is the determined extended cDNA sequence for 1G-4736
SEQ ID NO: 180 is the determined extended cDNA sequence for 1G-4738
SEQ ID NO: 181 is the determined extended cDNA sequence for 1G-4741
SEQ ID NO: 182 is the determined extended cDNA sequence for 1G-4744
SEQ ID NO: 183 is the determined extended cDNA sequence for 1H-4774
SEQ ID NO: 184 is the determined extended cDNA sequence for 1H-4781
SEQ ID NO: 185 is the determined extended cDNA sequence for 1H-4785
SEQ ID NO: 186 is the determined extended cDNA sequence for 1H-4787

SEQ ID NO: 187 is the determined extended cDNA sequence for 1H-4796
SEQ ID NO: 188 is the determined extended cDNA sequence for 1I-4807
SEQ ID NO: 189 is the determined 3' cDNA sequence for 1I-4810
SEQ ID NO: 190 is the determined 3' cDNA sequence for 1I-4811
SEQ ID NO: 191 is the determined extended cDNA sequence for 1J-4876
SEQ ID NO: 192 is the determined extended cDNA sequence for 1K-4884
SEQ ID NO: 193 is the determined extended cDNA sequence for 1K-4896
SEQ ID NO: 194 is the determined extended cDNA sequence for 1G-4761
SEQ ID NO: 195 is the determined extended cDNA sequence for 1G-4762
SEQ ID NO: 196 is the determined extended cDNA sequence for 1H-4766
SEQ ID NO: 197 is the determined 3' cDNA sequence for 1H-4770
SEQ ID NO: 198 is the determined 3' cDNA sequence for 1H-4771
SEQ ID NO: 199 is the determined extended cDNA sequence for 1H-4772
SEQ ID NO: 200 is the determined extended cDNA sequence for 1D-4309
SEQ ID NO: 201 is the determined extended cDNA sequence for 1D.1-4278
SEQ ID NO: 202 is the determined extended cDNA sequence for 1D-4288
SEQ ID NO: 203 is the determined extended cDNA sequence for 1D-4283
SEQ ID NO: 204 is the determined extended cDNA sequence for 1D-4304
SEQ ID NO: 205 is the determined extended cDNA sequence for 1D-4296
SEQ ID NO: 206 is the determined extended cDNA sequence for 1D-4280
SEQ ID NO: 207 is the determined cDNA sequence for 10-d8fwd
SEQ ID NO: 208 is the determined cDNA sequence for 10-H10con
SEQ ID NO: 209 is the determined cDNA sequence for 11-C8rev
SEQ ID NO: 210 is the determined cDNA sequence for 7.g6fwd
SEQ ID NO: 211 is the determined cDNA sequence for 7.g6rev
SEQ ID NO: 212 is the determined cDNA sequence for 8-b5fwd
SEQ ID NO: 213 is the determined cDNA sequence for 8-b5rev
SEQ ID NO: 214 is the determined cDNA sequence for 8-b6fwd
SEQ ID NO: 215 is the determined cDNA sequence for 8-b6 rev
SEQ ID NO: 216 is the determined cDNA sequence for 8-d4fwd
SEQ ID NO: 217 is the determined cDNA sequence for 8-d9rev
SEQ ID NO: 218 is the determined cDNA sequence for 8-g3fwd
SEQ ID NO: 219 is the determined cDNA sequence for 8-g3rev
SEQ ID NO: 220 is the determined cDNA sequence for 8-h11 rev
SEQ ID NO: 221 is the determined cDNA sequence for g-f12fwd
SEQ ID NO: 222 is the determined cDNA sequence for g-f3rev
SEQ ID NO: 223 is the determined cDNA sequence for P509S

SEQ ID NO: 224 is the determined cDNA sequence for P510S
SEQ ID NO: 225 is the determined cDNA sequence for P703DE5
SEQ ID NO: 226 is the determined cDNA sequence for 9-A11
SEQ ID NO: 227 is the determined cDNA sequence for 8-C6
SEQ ID NO: 228 is the determined cDNA sequence for 8-H7
SEQ ID NO: 229 is the determined cDNA sequence for JPTPN13
SEQ ID NO: 230 is the determined cDNA sequence for JPTPN14
SEQ ID NO: 231 is the determined cDNA sequence for JPTPN23
SEQ ID NO: 232 is the determined cDNA sequence for JPTPN24
SEQ ID NO: 233 is the determined cDNA sequence for JPTPN25
SEQ ID NO: 234 is the determined cDNA sequence for JPTPN30
SEQ ID NO: 235 is the determined cDNA sequence for JPTPN34
SEQ ID NO: 236 is the determined cDNA sequence for PTPN35
SEQ ID NO: 237 is the determined cDNA sequence for JPTPN36
SEQ ID NO: 238 is the determined cDNA sequence for JPTPN38
SEQ ID NO: 239 is the determined cDNA sequence for JPTPN39
SEQ ID NO: 240 is the determined cDNA sequence for JPTPN40
SEQ ID NO: 241 is the determined cDNA sequence for JPTPN41
SEQ ID NO: 242 is the determined cDNA sequence for JPTPN42
SEQ ID NO: 243 is the determined cDNA sequence for JPTPN45
SEQ ID NO: 244 is the determined cDNA sequence for JPTPN46
SEQ ID NO: 245 is the determined cDNA sequence for JPTPN51
SEQ ID NO: 246 is the determined cDNA sequence for JPTPN56
SEQ ID NO: 247 is the determined cDNA sequence for PTPN64
SEQ ID NO: 248 is the determined cDNA sequence for JPTPN65
SEQ ID NO: 249 is the determined cDNA sequence for JPTPN67
SEQ ID NO: 250 is the determined cDNA sequence for JPTPN76
SEQ ID NO: 251 is the determined cDNA sequence for JPTPN84
SEQ ID NO: 252 is the determined cDNA sequence for JPTPN85
SEQ ID NO: 253 is the determined cDNA sequence for JPTPN86
SEQ ID NO: 254 is the determined cDNA sequence for JPTPN87
SEQ ID NO: 255 is the determined cDNA sequence for JPTPN88
SEQ ID NO: 256 is the determined cDNA sequence for JP1F1
SEQ ID NO: 257 is the determined cDNA sequence for JP1F2
SEQ ID NO: 258 is the determined cDNA sequence for JP1C2
SEQ ID NO: 259 is the determined cDNA sequence for JP1B1
SEQ ID NO: 260 is the determined cDNA sequence for JP1B2

SEQ ID NO: 261 is the determined cDNA sequence for JP1D3
SEQ ID NO: 262 is the determined cDNA sequence for JP1A4
SEQ ID NO: 263 is the determined cDNA sequence for JP1F5
SEQ ID NO: 264 is the determined cDNA sequence for JP1E6
SEQ ID NO: 265 is the determined cDNA sequence for JP1D6
SEQ ID NO: 266 is the determined cDNA sequence for JP1B5
SEQ ID NO: 267 is the determined cDNA sequence for JP1A6
SEQ ID NO: 268 is the determined cDNA sequence for JP1E8
SEQ ID NO: 269 is the determined cDNA sequence for JP1D7
SEQ ID NO: 270 is the determined cDNA sequence for JP1D9
SEQ ID NO: 271 is the determined cDNA sequence for JP1C10
SEQ ID NO: 272 is the determined cDNA sequence for JP1A9
SEQ ID NO: 273 is the determined cDNA sequence for JP1F12
SEQ ID NO: 274 is the determined cDNA sequence for JP1E12
SEQ ID NO: 275 is the determined cDNA sequence for JP1D11
SEQ ID NO: 276 is the determined cDNA sequence for JP1C11
SEQ ID NO: 277 is the determined cDNA sequence for JP1C12
SEQ ID NO: 278 is the determined cDNA sequence for JP1B12
SEQ ID NO: 279 is the determined cDNA sequence for JP1A12
SEQ ID NO: 280 is the determined cDNA sequence for JP8G2
SEQ ID NO: 281 is the determined cDNA sequence for JP8H1
SEQ ID NO: 282 is the determined cDNA sequence for JP8H2
SEQ ID NO: 283 is the determined cDNA sequence for JP8A3
SEQ ID NO: 284 is the determined cDNA sequence for JP8A4
SEQ ID NO: 285 is the determined cDNA sequence for JP8C3
SEQ ID NO: 286 is the determined cDNA sequence for JP8G4
SEQ ID NO: 287 is the determined cDNA sequence for JP8B6
SEQ ID NO: 288 is the determined cDNA sequence for JP8D6
SEQ ID NO: 289 is the determined cDNA sequence for JP8F5
SEQ ID NO: 290 is the determined cDNA sequence for JP8A8
SEQ ID NO: 291 is the determined cDNA sequence for JP8C7
SEQ ID NO: 292 is the determined cDNA sequence for JP8D7
SEQ ID NO: 293 is the determined cDNA sequence for P8D8
SEQ ID NO: 294 is the determined cDNA sequence for JP8E7
SEQ ID NO: 295 is the determined cDNA sequence for JP8F8
SEQ ID NO: 296 is the determined cDNA sequence for JP8G8
SEQ ID NO: 297 is the determined cDNA sequence for JP8B10

SEQ ID NO: 298 is the determined cDNA sequence for JP8C10
SEQ ID NO: 299 is the determined cDNA sequence for JP8E9
SEQ ID NO: 300 is the determined cDNA sequence for JP8E10
SEQ ID NO: 301 is the determined cDNA sequence for JP8F9
SEQ ID NO: 302 is the determined cDNA sequence for JP8H9
SEQ ID NO: 303 is the determined cDNA sequence for JP8C12
SEQ ID NO: 304 is the determined cDNA sequence for JP8E11
SEQ ID NO: 305 is the determined cDNA sequence for JP8E12
SEQ ID NO: 306 is the amino acid sequence for the peptide PS2#12
SEQ ID NO: 307 is the determined cDNA sequence for P711P
SEQ ID NO: 308 is the determined cDNA sequence for P712P
SEQ ID NO: 309 is the determined cDNA sequence for CLONE23
SEQ ID NO: 310 is the determined cDNA sequence for P774P
SEQ ID NO: 311 is the determined cDNA sequence for P775P
SEQ ID NO: 312 is the determined cDNA sequence for P715P
SEQ ID NO: 313 is the determined cDNA sequence for P710P
SEQ ID NO: 314 is the determined cDNA sequence for P767P
SEQ ID NO: 315 is the determined cDNA sequence for P768P
SEQ ID NO: 316-325 are the determined cDNA sequences of previously isolated genes
SEQ ID NO: 326 is the determined cDNA sequence for P703PDE5
SEQ ID NO: 327 is the predicted amino acid sequence for P703PDE5
SEQ ID NO: 328 is the determined cDNA sequence for P703P6.26
SEQ ID NO: 329 is the predicted amino acid sequence for P703P6.26
SEQ ID NO: 330 is the determined cDNA sequence for P703PX-23
SEQ ID NO: 331 is the predicted amino acid sequence for P703PX-23
SEQ ID NO: 332 is the determined full length cDNA sequence for P509S
SEQ ID NO: 333 is the determined extended cDNA sequence for P707P (also referred to as 11-C9)
SEQ ID NO: 334 is the determined cDNA sequence for P714P
SEQ ID NO: 335 is the determined cDNA sequence for P705P (also referred to as 9-F3)
SEQ ID NO: 336 is the predicted amino acid sequence for P705P
SEQ ID NO: 337 is the amino acid sequence of the peptide P1S#10
SEQ ID NO: 338 is the amino acid sequence of the peptide p5
SEQ ID NO: 339 is the predicted amino acid sequence of P509S
SEQ ID NO: 340 is the determined cDNA sequence for P778P
SEQ ID NO: 341 is the determined cDNA sequence for P786P
SEQ ID NO: 342 is the determined cDNA sequence for P789P

SEQ ID NO: 343 is the determined cDNA sequence for a clone showing homology to Homo sapiens MM46 mRNA

SEQ ID NO: 344 is the determined cDNA sequence for a clone showing homology to Homo sapiens TNF-alpha stimulated ABC protein (ABC50) mRNA

SEQ ID NO: 345 is the determined cDNA sequence for a clone showing homology to Homo sapiens mRNA for E-cadherin

SEQ ID NO: 346 is the determined cDNA sequence for a clone showing homology to Human nuclear-encoded mitochondrial serine hydroxymethyltransferase (SHMT)

SEQ ID NO: 347 is the determined cDNA sequence for a clone showing homology to Homo sapiens natural resistance-associated macrophage protein2 (NRAMP2)

SEQ ID NO: 348 is the determined cDNA sequence for a clone showing homology to Homo sapiens phosphoglucosyltransferase-related protein (PGMRP)

SEQ ID NO: 349 is the determined cDNA sequence for a clone showing homology to Human mRNA for proteasome subunit p40

SEQ ID NO: 350 is the determined cDNA sequence for P777P

SEQ ID NO: 351 is the determined cDNA sequence for P779P

SEQ ID NO: 352 is the determined cDNA sequence for P790P

SEQ ID NO: 353 is the determined cDNA sequence for P784P

SEQ ID NO: 354 is the determined cDNA sequence for P776P

SEQ ID NO: 355 is the determined cDNA sequence for P780P

SEQ ID NO: 356 is the determined cDNA sequence for P544S

SEQ ID NO: 357 is the determined cDNA sequence for P745S

SEQ ID NO: 358 is the determined cDNA sequence for P782P

SEQ ID NO: 359 is the determined cDNA sequence for P783P

SEQ ID NO: 360 is the determined cDNA sequence for unknown 17984

SEQ ID NO: 361 is the determined cDNA sequence for P787P

SEQ ID NO: 362 is the determined cDNA sequence for P788P

SEQ ID NO: 363 is the determined cDNA sequence for unknown 17994

SEQ ID NO: 364 is the determined cDNA sequence for P781P

SEQ ID NO: 365 is the determined cDNA sequence for P785P

SEQ ID NO: 366-375 are the determined cDNA sequences for splice variants of B305D.

SEQ ID NO: 376 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 366.

SEQ ID NO: 377 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 372.

SEQ ID NO: 378 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 373.

SEQ ID NO: 379 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 374.

SEQ ID NO: 380 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 375.

SEQ ID NO: 381 is the determined cDNA sequence for B716P.

SEQ ID NO: 382 is the determined full-length cDNA sequence for P711P.

SEQ ID NO: 383 is the predicted amino acid sequence for P711P.

SEQ ID NO: 384 is the cDNA sequence for P1000C.

SEQ ID NO: 385 is the cDNA sequence for CGI-82.

SEQ ID NO: 386 is the cDNA sequence for 23320.

SEQ ID NO: 387 is the cDNA sequence for CGI-69.

SEQ ID NO: 388 is the cDNA sequence for L-iditol-2-dehydrogenase.

SEQ ID NO: 389 is the cDNA sequence for 23379.

SEQ ID NO: 390 is the cDNA sequence for 23381.

SEQ ID NO: 391 is the cDNA sequence for KIAA0122.

SEQ ID NO: 392 is the cDNA sequence for 23399.

SEQ ID NO: 393 is the cDNA sequence for a previously identified gene.

SEQ ID NO: 394 is the cDNA sequence for HCLBP.

SEQ ID NO: 395 is the cDNA sequence for transglutaminase.

SEQ ID NO: 396 is the cDNA sequence for a previously identified gene.

SEQ ID NO: 397 is the cDNA sequence for PAP.

SEQ ID NO: 398 is the cDNA sequence for Ets transcription factor PDEF.

SEQ ID NO: 399 is the cDNA sequence for hTGR.

SEQ ID NO: 400 is the cDNA sequence for KIAA0295.

SEQ ID NO: 401 is the cDNA sequence for 22545.

SEQ ID NO: 402 is the cDNA sequence for 22547.

SEQ ID NO: 403 is the cDNA sequence for 22548.

SEQ ID NO: 404 is the cDNA sequence for 22550.

SEQ ID NO: 405 is the cDNA sequence for 22551.

SEQ ID NO: 406 is the cDNA sequence for 22552.

SEQ ID NO: 407 is the cDNA sequence for 22553.

SEQ ID NO: 408 is the cDNA sequence for 22558.

SEQ ID NO: 409 is the cDNA sequence for 22562.

SEQ ID NO: 410 is the cDNA sequence for 22565.

SEQ ID NO: 411 is the cDNA sequence for 22567.

SEQ ID NO: 412 is the cDNA sequence for 22568.

SEQ ID NO: 413 is the cDNA sequence for 22570.

SEQ ID NO:414 is the cDNA sequence for 22571.
SEQ ID NO:415 is the cDNA sequence for 22572.
SEQ ID NO:416 is the cDNA sequence for 22573.
SEQ ID NO:417 is the cDNA sequence for 22573.
SEQ ID NO:418 is the cDNA sequence for 22575.
SEQ ID NO:419 is the cDNA sequence for 22580.
SEQ ID NO:420 is the cDNA sequence for 22581.
SEQ ID NO:421 is the cDNA sequence for 22582.
SEQ ID NO:422 is the cDNA sequence for 22583.
SEQ ID NO:423 is the cDNA sequence for 22584.
SEQ ID NO:424 is the cDNA sequence for 22585.
SEQ ID NO:425 is the cDNA sequence for 22586.
SEQ ID NO:426 is the cDNA sequence for 22587.
SEQ ID NO:427 is the cDNA sequence for 22588.
SEQ ID NO:428 is the cDNA sequence for 22589.
SEQ ID NO:429 is the cDNA sequence for 22590.
SEQ ID NO:430 is the cDNA sequence for 22591.
SEQ ID NO:431 is the cDNA sequence for 22592.
SEQ ID NO:432 is the cDNA sequence for 22593.
SEQ ID NO:433 is the cDNA sequence for 22594.
SEQ ID NO:434 is the cDNA sequence for 22595.
SEQ ID NO:435 is the cDNA sequence for 22596.
SEQ ID NO:436 is the cDNA sequence for 22847.
SEQ ID NO:437 is the cDNA sequence for 22848.
SEQ ID NO:438 is the cDNA sequence for 22849.
SEQ ID NO:439 is the cDNA sequence for 22851.
SEQ ID NO:440 is the cDNA sequence for 22852.
SEQ ID NO:441 is the cDNA sequence for 22853.
SEQ ID NO:442 is the cDNA sequence for 22854.
SEQ ID NO:443 is the cDNA sequence for 22855.
SEQ ID NO:444 is the cDNA sequence for 22856.
SEQ ID NO:445 is the cDNA sequence for 22857.
SEQ ID NO:446 is the cDNA sequence for 23601.
SEQ ID NO:447 is the cDNA sequence for 23602.
SEQ ID NO:448 is the cDNA sequence for 23605.
SEQ ID NO:449 is the cDNA sequence for 23606.
SEQ ID NO:450 is the cDNA sequence for 23612.

SEQ ID NO:451 is the cDNA sequence for 23614.
SEQ ID NO:452 is the cDNA sequence for 23618.
SEQ ID NO:453 is the cDNA sequence for 23622.
SEQ ID NO:454 is the cDNA sequence for folate hydrolase.
SEQ ID NO:455 is the cDNA sequence for LIM protein.
SEQ ID NO:456 is the cDNA sequence for a known gene.
SEQ ID NO:457 is the cDNA sequence for a known gene.
SEQ ID NO:458 is the cDNA sequence for a previously identified gene.
SEQ ID NO:459 is the cDNA sequence for 23045.
SEQ ID NO:460 is the cDNA sequence for 23032.
SEQ ID NO:461 is the cDNA sequence for 23054.
SEQ ID NOs:462-467 are cDNA sequences for known genes.
SEQ ID NOs:468-471 are cDNA sequences for P710P.
SEQ ID NO:472 is a cDNA sequence for P1001C.

DETAILED DESCRIPTION OF THE INVENTION

As noted above, the present invention is generally directed to compositions and methods for the therapy and diagnosis of cancer, such as prostate cancer. The compositions described herein may include prostate tumor polypeptides, polynucleotides encoding such polypeptides, binding agents such as antibodies, antigen presenting cells (APCs) and/or immune system cells (*e.g.*, T cells). Polypeptides of the present invention generally comprise at least a portion (such as an immunogenic portion) of a prostate tumor protein or a variant thereof. A "prostate tumor protein" is a protein that is expressed in prostate tumor cells at a level that is at least two fold, and preferably at least five fold, greater than the level of expression in a normal tissue, as determined using a representative assay provided herein. Certain prostate tumor proteins are tumor proteins that react detectably (within an immunoassay, such as an ELISA or Western blot) with antisera of a patient afflicted with prostate cancer. Polynucleotides of the subject invention generally comprise a DNA or RNA sequence that encodes all or a portion of such a polypeptide, or that is complementary to such a sequence. Antibodies are generally immune system proteins, or antigen-binding fragments thereof, that are capable of binding to a polypeptide as described above. Antigen presenting cells include dendritic cells, macrophages, monocytes, fibroblasts and B-cells that express a polypeptide as described above. T cells that may be employed within such compositions are generally T cells that are specific for a polypeptide as described above.

The present invention is based on the discovery of human prostate tumor proteins. Sequences of polynucleotides encoding certain tumor proteins, or portions thereof, are provided in SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472. Sequences of polypeptides comprising at least a portion of a tumor protein are provided in SEQ ID NOs:112-114, 172, 176, 178, 327, 329, 331, 336, 339, 376-380 and 383.

PROSTATE TUMOR PROTEIN POLYNUCLEOTIDES

Any polynucleotide that encodes a prostate tumor protein or a portion or other variant thereof as described herein is encompassed by the present invention. Preferred polynucleotides comprise at least 15 consecutive nucleotides, preferably at least 30 consecutive nucleotides and more preferably at least 45 consecutive nucleotides, that encode a portion of a prostate tumor protein. More preferably, a polynucleotide encodes an immunogenic portion of a prostate tumor protein. Polynucleotides complementary to any such sequences are also encompassed by the present invention. Polynucleotides may be single-stranded (coding or antisense) or double-stranded, and may be DNA (genomic, cDNA or synthetic) or RNA molecules. RNA molecules include HnRNA molecules, which contain introns and correspond to a DNA molecule in a one-to-one manner, and mRNA molecules, which do not contain introns. Additional coding or non-coding sequences may, but need not, be present within a polynucleotide of the present invention, and a polynucleotide may, but need not, be linked to other molecules and/or support materials.

Polynucleotides may comprise a native sequence (*i.e.*, an endogenous sequence that encodes a prostate tumor protein or a portion thereof) or may comprise a variant of such a sequence. Polynucleotide variants may contain one or more substitutions, additions, deletions and/or insertions such that the immunogenicity of the encoded polypeptide is not diminished, relative to a native tumor protein. The effect on the immunogenicity of the encoded polypeptide may generally be assessed as described herein. Variants preferably exhibit at least about 70% identity, more preferably at least about 80% identity and most preferably at least about 90% identity to a polynucleotide sequence that encodes a native prostate tumor protein or a portion thereof.

Two polynucleotide or polypeptide sequences are said to be "identical" if the sequence of nucleotides or amino acids in the two sequences is the same when aligned for maximum correspondence as described below. Comparisons between two sequences are typically performed by comparing the sequences over a comparison window to identify and compare local regions of sequence similarity. A "comparison window" as used herein, refers to a segment of at least about 20 contiguous positions, usually 30 to about 75, 40 to about 50,

in which a sequence may be compared to a reference sequence of the same number of contiguous positions after the two sequences are optimally aligned.

Optimal alignment of sequences for comparison may be conducted using the Megalign program in the Lasergene suite of bioinformatics software (DNASTAR, Inc., Madison, WI), using default parameters. This program embodies several alignment schemes described in the following references: Dayhoff, M.O. (1978) A model of evolutionary change in proteins – Matrices for detecting distant relationships. In Dayhoff, M.O. (ed.) *Atlas of Protein Sequence and Structure*, National Biomedical Research Foundation, Washington DC Vol. 5, Suppl. 3, pp. 345-358; Hein J. (1990) *Unified Approach to Alignment and Phylogenesis* pp. 626-645 *Methods in Enzymology* vol. 183, Academic Press, Inc., San Diego, CA; Higgins, D.G. and Sharp, P.M. (1989) *CABIOS* 5:151-153; Myers, E.W. and Muller W. (1988) *CABIOS* 4:11-17; Robinson, E.D. (1971) *Comb. Theor* 11:105; Santou, N. Nes, M. (1987) *Mol. Biol. Evol.* 4:406-425; Sneath, P.H.A. and Sokal, R.R. (1973) *Numerical Taxonomy – the Principles and Practice of Numerical Taxonomy*, Freeman Press, San Francisco, CA; Wilbur, W.J. and Lipman, D.J. (1983) *Proc. Natl. Acad., Sci. USA* 80:726-730.

Preferably, the “percentage of sequence identity” is determined by comparing two optimally aligned sequences over a window of comparison of at least 20 positions, wherein the portion of the polynucleotide or polypeptide sequence in the comparison window may comprise additions or deletions (*i.e.*, gaps) of 20 percent or less, usually 5 to 15 percent, or 10 to 12 percent, as compared to the reference sequences (which does not comprise additions or deletions) for optimal alignment of the two sequences. The percentage is calculated by determining the number of positions at which the identical nucleic acid bases or amino acid residue occurs in both sequences to yield the number of matched positions, dividing the number of matched positions by the total number of positions in the reference sequence (*i.e.*, the window size) and multiplying the results by 100 to yield the percentage of sequence identity.

Variants may also, or alternatively, be substantially homologous to a native gene, or a portion or complement thereof. Such polynucleotide variants are capable of hybridizing under moderately stringent conditions to a naturally occurring DNA sequence encoding a native prostate tumor protein (or a complementary sequence). Suitable moderately stringent conditions include prewashing in a solution of 5 X SSC, 0.5% SDS, 1.0 mM EDTA (pH 8.0); hybridizing at 50°C-65°C, 5 X SSC, overnight; followed by washing twice at 65°C for 20 minutes with each of 2X, 0.5X and 0.2X SSC containing 0.1% SDS.

It will be appreciated by those of ordinary skill in the art that, as a result of the degeneracy of the genetic code, there are many nucleotide sequences that encode a polypeptide as described herein. Some of these polynucleotides bear minimal homology to

the nucleotide sequence of any native gene. Nonetheless, polynucleotides that vary due to differences in codon usage are specifically contemplated by the present invention. Further, alleles of the genes comprising the polynucleotide sequences provided herein are within the scope of the present invention. Alleles are endogenous genes that are altered as a result of one or more mutations, such as deletions, additions and/or substitutions of nucleotides. The resulting mRNA and protein may, but need not, have an altered structure or function. Alleles may be identified using standard techniques (such as hybridization, amplification and/or database sequence comparison).

Polynucleotides may be prepared using any of a variety of techniques. For example, a polynucleotide may be identified, as described in more detail below, by screening a microarray of cDNAs for tumor-associated expression (*i.e.*, expression that is at least five fold greater in a prostate tumor than in normal tissue, as determined using a representative assay provided herein). Such screens may be performed using a Synteni microarray (Palo Alto, CA) according to the manufacturer's instructions (and essentially as described by Schena et al., *Proc. Natl. Acad. Sci. USA* 93:10614-10619, 1996 and Heller et al., *Proc. Natl. Acad. Sci. USA* 94:2150-2155, 1997). Alternatively, polypeptides may be amplified from cDNA prepared from cells expressing the proteins described herein, such as prostate tumor cells. Such polynucleotides may be amplified via polymerase chain reaction (PCR). For this approach, sequence-specific primers may be designed based on the sequences provided herein, and may be purchased or synthesized.

An amplified portion may be used to isolate a full length gene from a suitable library (*e.g.*, a prostate tumor cDNA library) using well known techniques. Within such techniques, a library (cDNA or genomic) is screened using one or more polynucleotide probes or primers suitable for amplification. Preferably, a library is size-selected to include larger molecules. Random primed libraries may also be preferred for identifying 5' and upstream regions of genes. Genomic libraries are preferred for obtaining introns and extending 5' sequences.

For hybridization techniques, a partial sequence may be labeled (*e.g.*, by nick-translation or end-labeling with ^{32}P) using well known techniques. A bacterial or bacteriophage library is then screened by hybridizing filters containing denatured bacterial colonies (or lawns containing phage plaques) with the labeled probe (*see* Sambrook et al., *Molecular Cloning: A Laboratory Manual*, Cold Spring Harbor Laboratories, Cold Spring Harbor, NY, 1989). Hybridizing colonies or plaques are selected and expanded, and the DNA is isolated for further analysis. cDNA clones may be analyzed to determine the amount of additional sequence by, for example, PCR using a primer from the partial sequence and a primer from the vector. Restriction maps and partial sequences may be generated to identify one or more overlapping clones. The complete sequence may then be determined using

standard techniques, which may involve generating a series of deletion clones. The resulting overlapping sequences are then assembled into a single contiguous sequence. A full length cDNA molecule can be generated by ligating suitable fragments, using well known techniques.

Alternatively, there are numerous amplification techniques for obtaining a full length coding sequence from a partial cDNA sequence. Within such techniques, amplification is generally performed via PCR. Any of a variety of commercially available kits may be used to perform the amplification step. Primers may be designed using, for example, software well known in the art. Primers are preferably 22-30 nucleotides in length, have a GC content of at least 50% and anneal to the target sequence at temperatures of about 68°C to 72°C. The amplified region may be sequenced as described above, and overlapping sequences assembled into a contiguous sequence.

One such amplification technique is inverse PCR (*see* Triglia et al., *Nucl. Acids Res.* 16:8186, 1988), which uses restriction enzymes to generate a fragment in the known region of the gene. The fragment is then circularized by intramolecular ligation and used as a template for PCR with divergent primers derived from the known region. Within an alternative approach, sequences adjacent to a partial sequence may be retrieved by amplification with a primer to a linker sequence and a primer specific to a known region. The amplified sequences are typically subjected to a second round of amplification with the same linker primer and a second primer specific to the known region. A variation on this procedure, which employs two primers that initiate extension in opposite directions from the known sequence, is described in WO 96/38591. Another such technique is known as "rapid amplification of cDNA ends" or RACE. This technique involves the use of an internal primer and an external primer, which hybridizes to a polyA region or vector sequence, to identify sequences that are 5' and 3' of a known sequence. Additional techniques include capture PCR (Lagerstrom et al., *PCR Methods Applic.* 1:111-19, 1991) and walking PCR (Parker et al., *Nucl. Acids. Res.* 19:3055-60, 1991). Other methods employing amplification may also be employed to obtain a full length cDNA sequence.

In certain instances, it is possible to obtain a full length cDNA sequence by analysis of sequences provided in an expressed sequence tag (EST) database, such as that available from GenBank. Searches for overlapping ESTs may generally be performed using well known programs (*e.g.*, NCBI BLAST searches), and such ESTs may be used to generate a contiguous full length sequence.

Certain nucleic acid sequences of cDNA molecules encoding at least a portion of a prostate tumor protein are provided in SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472. Isolation of these

polynucleotides is described below. Each of these prostate tumor proteins was overexpressed in prostate tumor tissue.

Polynucleotide variants may generally be prepared by any method known in the art, including chemical synthesis by, for example, solid phase phosphoramidite chemical synthesis. Modifications in a polynucleotide sequence may also be introduced using standard mutagenesis techniques, such as oligonucleotide-directed site-specific mutagenesis (*see* Adelman et al., *DNA* 2:183, 1983). Alternatively, RNA molecules may be generated by *in vitro* or *in vivo* transcription of DNA sequences encoding a prostate tumor protein, or portion thereof, provided that the DNA is incorporated into a vector with a suitable RNA polymerase promoter (such as T7 or SP6). Certain portions may be used to prepare an encoded polypeptide, as described herein. In addition, or alternatively, a portion may be administered to a patient such that the encoded polypeptide is generated *in vivo* (e.g., by transfecting antigen-presenting cells, such as dendritic cells, with a cDNA construct encoding a prostate tumor polypeptide, and administering the transfected cells to the patient).

A portion of a sequence complementary to a coding sequence (*i.e.*, an antisense polynucleotide) may also be used as a probe or to modulate gene expression. cDNA constructs that can be transcribed into antisense RNA may also be introduced into cells of tissues to facilitate the production of antisense RNA. An antisense polynucleotide may be used, as described herein, to inhibit expression of a tumor protein. Antisense technology can be used to control gene expression through triple-helix formation, which compromises the ability of the double helix to open sufficiently for the binding of polymerases, transcription factors or regulatory molecules (*see* Gee et al., *In Huber and Carr, Molecular and Immunologic Approaches*, Futura Publishing Co. (Mt. Kisco, NY; 1994)). Alternatively, an antisense molecule may be designed to hybridize with a control region of a gene (e.g., promoter, enhancer or transcription initiation site), and block transcription of the gene; or to block translation by inhibiting binding of a transcript to ribosomes.

A portion of a coding sequence, or of a complementary sequence, may also be designed as a probe or primer to detect gene expression. Probes may be labeled with a variety of reporter groups, such as radionuclides and enzymes, and are preferably at least 10 nucleotides in length, more preferably at least 20 nucleotides in length and still more preferably at least 30 nucleotides in length. Primers, as noted above, are preferably 22-30 nucleotides in length.

Any polynucleotide may be further modified to increase stability *in vivo*. Possible modifications include, but are not limited to, the addition of flanking sequences at the 5' and/or 3' ends; the use of phosphorothioate or 2' O-methyl rather than phosphodiesterase linkages in the backbone; and/or the inclusion of nontraditional bases such

as inosine, queosine and wybutosine, as well as acetyl- methyl-, thio- and other modified forms of adenine, cytidine, guanine, thymine and uridine.

Nucleotide sequences as described herein may be joined to a variety of other nucleotide sequences using established recombinant DNA techniques. For example, a polynucleotide may be cloned into any of a variety of cloning vectors, including plasmids, phagemids, lambda phage derivatives and cosmids. Vectors of particular interest include expression vectors, replication vectors, probe generation vectors and sequencing vectors. In general, a vector will contain an origin of replication functional in at least one organism, convenient restriction endonuclease sites and one or more selectable markers. Other elements will depend upon the desired use, and will be apparent to those of ordinary skill in the art.

Within certain embodiments, polynucleotides may be formulated so as to permit entry into a cell of a mammal, and expression therein. Such formulations are particularly useful for therapeutic purposes, as described below. Those of ordinary skill in the art will appreciate that there are many ways to achieve expression of a polynucleotide in a target cell, and any suitable method may be employed. For example, a polynucleotide may be incorporated into a viral vector such as, but not limited to, adenovirus, adeno-associated virus, retrovirus, or vaccinia or other pox virus (*e.g.*, avian pox virus). Techniques for incorporating DNA into such vectors are well known to those of ordinary skill in the art. A retroviral vector may additionally transfer or incorporate a gene for a selectable marker (to aid in the identification or selection of transduced cells) and/or a targeting moiety, such as a gene that encodes a ligand for a receptor on a specific target cell, to render the vector target specific. Targeting may also be accomplished using an antibody, by methods known to those of ordinary skill in the art.

Other formulations for therapeutic purposes include colloidal dispersion systems, such as macromolecule complexes, nanocapsules, microspheres, beads, and lipid-based systems including oil-in-water emulsions, micelles, mixed micelles, and liposomes. A preferred colloidal system for use as a delivery vehicle *in vitro* and *in vivo* is a liposome (*i.e.*, an artificial membrane vesicle). The preparation and use of such systems is well known in the art.

PROSTATE TUMOR POLYPEPTIDES

Within the context of the present invention, polypeptides may comprise at least an immunogenic portion of a prostate tumor protein or a variant thereof, as described herein. As noted above, a "prostate tumor protein" is a protein that is expressed by prostate tumor cells. Proteins that are prostate tumor proteins also react detectably within an immunoassay (such as an ELISA) with antisera from a patient with prostate cancer. Polypeptides as described herein may be of any length. Additional sequences derived from

the native protein and/or heterologous sequences may be present, and such sequences may (but need not) possess further immunogenic or antigenic properties.

An "immunogenic portion," as used herein is a portion of a protein that is recognized (*i.e.*, specifically bound) by a B-cell and/or T-cell surface antigen receptor. Such immunogenic portions generally comprise at least 5 amino acid residues, more preferably at least 10, and still more preferably at least 20 amino acid residues of a prostate tumor protein or a variant thereof. Certain preferred immunogenic portions include peptides in which an N-terminal leader sequence and/or transmembrane domain have been deleted. Other preferred immunogenic portions may contain a small N- and/or C-terminal deletion (*e.g.*, 1-30 amino acids, preferably 5-15 amino acids), relative to the mature protein.

Immunogenic portions may generally be identified using well known techniques, such as those summarized in Paul, *Fundamental Immunology*, 3rd ed., 243-247 (Raven Press, 1993) and references cited therein. Such techniques include screening polypeptides for the ability to react with antigen-specific antibodies, antisera and/or T-cell lines or clones. As used herein, antisera and antibodies are "antigen-specific" if they specifically bind to an antigen (*i.e.*, they react with the protein in an ELISA or other immunoassay, and do not react detectably with unrelated proteins). Such antisera and antibodies may be prepared as described herein, and using well known techniques. An immunogenic portion of a native prostate tumor protein is a portion that reacts with such antisera and/or T-cells at a level that is not substantially less than the reactivity of the full length polypeptide (*e.g.*, in an ELISA and/or T-cell reactivity assay). Such immunogenic portions may react within such assays at a level that is similar to or greater than the reactivity of the full length polypeptide. Such screens may generally be performed using methods well known to those of ordinary skill in the art, such as those described in Harlow and Lane, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988. For example, a polypeptide may be immobilized on a solid support and contacted with patient sera to allow binding of antibodies within the sera to the immobilized polypeptide. Unbound sera may then be removed and bound antibodies detected using, for example, ¹²⁵I-labeled Protein A.

As noted above, a composition may comprise a variant of a native prostate tumor protein. A polypeptide "variant," as used herein, is a polypeptide that differs from a native prostate tumor protein in one or more substitutions, deletions, additions and/or insertions, such that the immunogenicity of the polypeptide is not substantially diminished. In other words, the ability of a variant to react with antigen-specific antisera may be enhanced or unchanged, relative to the native protein, or may be diminished by less than 50%, and preferably less than 20%, relative to the native protein. Such variants may generally be identified by modifying one of the above polypeptide sequences and evaluating the reactivity of the modified polypeptide with antigen-specific antibodies or antisera as described herein.

Preferred variants include those in which one or more portions, such as an N-terminal leader sequence or transmembrane domain, have been removed. Other preferred variants include variants in which a small portion (*e.g.*, 1-30 amino acids, preferably 5-15 amino acids) has been removed from the N- and/or C-terminal of the mature protein. Polypeptide variants preferably exhibit at least about 70%, more preferably at least about 90% and most preferably at least about 95% identity (determined as described above) to the identified polypeptides.

Preferably, a variant contains conservative substitutions. A "conservative substitution" is one in which an amino acid is substituted for another amino acid that has similar properties, such that one skilled in the art of peptide chemistry would expect the secondary structure and hydropathic nature of the polypeptide to be substantially unchanged. Amino acid substitutions may generally be made on the basis of similarity in polarity, charge, solubility, hydrophobicity, hydrophilicity and/or the amphipathic nature of the residues. For example, negatively charged amino acids include aspartic acid and glutamic acid; positively charged amino acids include lysine and arginine; and amino acids with uncharged polar head groups having similar hydrophilicity values include leucine, isoleucine and valine; glycine and alanine; asparagine and glutamine; and serine, threonine, phenylalanine and tyrosine. Other groups of amino acids that may represent conservative changes include: (1) ala, pro, gly, glu, asp, gln, asn, ser, thr; (2) cys, ser, tyr, thr; (3) val, ile, leu, met, ala, phe; (4) lys, arg, his; and (5) phe, tyr, trp, his. A variant may also, or alternatively, contain nonconservative changes. In a preferred embodiment, variant polypeptides differ from a native sequence by substitution, deletion or addition of five amino acids or fewer. Variants may also (or alternatively) be modified by, for example, the deletion or addition of amino acids that have minimal influence on the immunogenicity, secondary structure and hydropathic nature of the polypeptide.

As noted above, polypeptides may comprise a signal (or leader) sequence at the N-terminal end of the protein which co-translationally or post-translationally directs transfer of the protein. The polypeptide may also be conjugated to a linker or other sequence for ease of synthesis, purification or identification of the polypeptide (*e.g.*, poly-His), or to enhance binding of the polypeptide to a solid support. For example, a polypeptide may be conjugated to an immunoglobulin Fc region.

Polypeptides may be prepared using any of a variety of well known techniques. Recombinant polypeptides encoded by DNA sequences as described above may be readily prepared from the DNA sequences using any of a variety of expression vectors known to those of ordinary skill in the art. Expression may be achieved in any appropriate host cell that has been transformed or transfected with an expression vector containing a DNA molecule that encodes a recombinant polypeptide. Suitable host cells include prokaryotes, yeast and higher eukaryotic cells. Preferably, the host cells employed are

E. coli, yeast or a mammalian cell line such as COS or CHO. Supernatants from suitable host/vector systems which secrete recombinant protein or polypeptide into culture media may be first concentrated using a commercially available filter. Following concentration, the concentrate may be applied to a suitable purification matrix such as an affinity matrix or an ion exchange resin. Finally, one or more reverse phase HPLC steps can be employed to further purify a recombinant polypeptide.

Portions and other variants having fewer than about 100 amino acids, and generally fewer than about 50 amino acids, may also be generated by synthetic means, using techniques well known to those of ordinary skill in the art. For example, such polypeptides may be synthesized using any of the commercially available solid-phase techniques, such as the Merrifield solid-phase synthesis method, where amino acids are sequentially added to a growing amino acid chain. See Merrifield, *J. Am. Chem. Soc.* 85:2149-2146, 1963. Equipment for automated synthesis of polypeptides is commercially available from suppliers such as Perkin Elmer/Applied BioSystems Division (Foster City, CA), and may be operated according to the manufacturer's instructions.

Within certain specific embodiments, a polypeptide may be a fusion protein that comprises multiple polypeptides as described herein, or that comprises at least one polypeptide as described herein and an unrelated sequence, such as a known tumor protein. A fusion partner may, for example, assist in providing T helper epitopes (an immunological fusion partner), preferably T helper epitopes recognized by humans, or may assist in expressing the protein (an expression enhancer) at higher yields than the native recombinant protein. Certain preferred fusion partners are both immunological and expression enhancing fusion partners. Other fusion partners may be selected so as to increase the solubility of the protein or to enable the protein to be targeted to desired intracellular compartments. Still further fusion partners include affinity tags, which facilitate purification of the protein.

Fusion proteins may generally be prepared using standard techniques, including chemical conjugation. Preferably, a fusion protein is expressed as a recombinant protein, allowing the production of increased levels, relative to a non-fused protein, in an expression system. Briefly, DNA sequences encoding the polypeptide components may be assembled separately, and ligated into an appropriate expression vector. The 3' end of the DNA sequence encoding one polypeptide component is ligated, with or without a peptide linker, to the 5' end of a DNA sequence encoding the second polypeptide component so that the reading frames of the sequences are in phase. This permits translation into a single fusion protein that retains the biological activity of both component polypeptides.

A peptide linker sequence may be employed to separate the first and the second polypeptide components by a distance sufficient to ensure that each polypeptide folds into its secondary and tertiary structures. Such a peptide linker sequence is incorporated into

the fusion protein using standard techniques well known in the art. Suitable peptide linker sequences may be chosen based on the following factors: (1) their ability to adopt a flexible extended conformation; (2) their inability to adopt a secondary structure that could interact with functional epitopes on the first and second polypeptides; and (3) the lack of hydrophobic or charged residues that might react with the polypeptide functional epitopes. Preferred peptide linker sequences contain Gly, Asn and Ser residues. Other near neutral amino acids, such as Thr and Ala may also be used in the linker sequence. Amino acid sequences which may be usefully employed as linkers include those disclosed in Maratea et al., *Gene* 40:39-46, 1985; Murphy et al., *Proc. Natl. Acad. Sci. USA* 83:8258-8262, 1986; U.S. Patent No. 4,935,233 and U.S. Patent No. 4,751,180. The linker sequence may generally be from 1 to about 50 amino acids in length. Linker sequences are not required when the first and second polypeptides have non-essential N-terminal amino acid regions that can be used to separate the functional domains and prevent steric interference.

The ligated DNA sequences are operably linked to suitable transcriptional or translational regulatory elements. The regulatory elements responsible for expression of DNA are located only 5' to the DNA sequence encoding the first polypeptides. Similarly, stop codons required to end translation and transcription termination signals are only present 3' to the DNA sequence encoding the second polypeptide.

Fusion proteins are also provided that comprise a polypeptide of the present invention together with an unrelated immunogenic protein. Preferably the immunogenic protein is capable of eliciting a recall response. Examples of such proteins include tetanus, tuberculosis and hepatitis proteins (*see, for example, Stoute et al. New Engl. J. Med.*, 336:86-91, 1997).

Within preferred embodiments, an immunological fusion partner is derived from protein D, a surface protein of the gram-negative bacterium *Haemophilus influenza B* (WO 91/18926). Preferably, a protein D derivative comprises approximately the first third of the protein (*e.g.*, the first N-terminal 100-110 amino acids), and a protein D derivative may be lipidated. Within certain preferred embodiments, the first 109 residues of a Lipoprotein D fusion partner is included on the N-terminus to provide the polypeptide with additional exogenous T-cell epitopes and to increase the expression level in *E. coli* (thus functioning as an expression enhancer). The lipid tail ensures optimal presentation of the antigen to antigen presenting cells. Other fusion partners include the non-structural protein from influenzae virus, NS1 (hemagglutinin). Typically, the N-terminal 81 amino acids are used, although different fragments that include T-helper epitopes may be used.

In another embodiment, the immunological fusion partner is the protein known as LYTA, or a portion thereof (preferably a C-terminal portion). LYTA is derived from *Streptococcus pneumoniae*, which synthesizes an N-acetyl-L-alanine amidase known as

amidase LYTA (encoded by the *LytA* gene; *Gene* 43:265-292, 1986). LYTA is an autolysin that specifically degrades certain bonds in the peptidoglycan backbone. The C-terminal domain of the LYTA protein is responsible for the affinity to the choline or to some choline analogues such as DEAE. This property has been exploited for the development of *E. coli* C-LYTA expressing plasmids useful for expression of fusion proteins. Purification of hybrid proteins containing the C-LYTA fragment at the amino terminus has been described (*see Biotechnology* 10:795-798, 1992). Within a preferred embodiment, a repeat portion of LYTA may be incorporated into a fusion protein. A repeat portion is found in the C-terminal region starting at residue 178. A particularly preferred repeat portion incorporates residues 188-305.

In general, polypeptides (including fusion proteins) and polynucleotides as described herein are isolated. An "isolated" polypeptide or polynucleotide is one that is removed from its original environment. For example, a naturally-occurring protein is isolated if it is separated from some or all of the coexisting materials in the natural system. Preferably, such polypeptides are at least about 90% pure, more preferably at least about 95% pure and most preferably at least about 99% pure. A polynucleotide is considered to be isolated if, for example, it is cloned into a vector that is not a part of the natural environment.

BINDING AGENTS

The present invention further provides agents, such as antibodies and antigen-binding fragments thereof, that specifically bind to a prostate tumor protein. As used herein, an antibody, or antigen-binding fragment thereof, is said to "specifically bind" to a prostate tumor protein if it reacts at a detectable level (within, for example, an ELISA) with a prostate tumor protein, and does not react detectably with unrelated proteins under similar conditions. As used herein, "binding" refers to a noncovalent association between two separate molecules such that a complex is formed. The ability to bind may be evaluated by, for example, determining a binding constant for the formation of the complex. The binding constant is the value obtained when the concentration of the complex is divided by the product of the component concentrations. In general, two compounds are said to "bind," in the context of the present invention, when the binding constant for complex formation exceeds about 10^3 L/mol. The binding constant may be determined using methods well known in the art.

Binding agents may be further capable of differentiating between patients with and without a cancer, such as prostate cancer, using the representative assays provided herein. In other words, antibodies or other binding agents that bind to a prostate tumor protein will generate a signal indicating the presence of a cancer in at least about 20% of patients with the disease, and will generate a negative signal indicating the absence of the disease in at least about 90% of individuals without the cancer. To determine whether a binding agent satisfies this requirement, biological samples (e.g., blood, sera, urine and/or tumor biopsies) from

patients with and without a cancer (as determined using standard clinical tests) may be assayed as described herein for the presence of polypeptides that bind to the binding agent. It will be apparent that a statistically significant number of samples with and without the disease should be assayed. Each binding agent should satisfy the above criteria; however, those of ordinary skill in the art will recognize that binding agents may be used in combination to improve sensitivity.

Any agent that satisfies the above requirements may be a binding agent. For example, a binding agent may be a ribosome, with or without a peptide component, an RNA molecule or a polypeptide. In a preferred embodiment, a binding agent is an antibody or an antigen-binding fragment thereof. Antibodies may be prepared by any of a variety of techniques known to those of ordinary skill in the art. *See, e.g., Harlow and Lane, Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988. In general, antibodies can be produced by cell culture techniques, including the generation of monoclonal antibodies as described herein, or via transfection of antibody genes into suitable bacterial or mammalian cell hosts, in order to allow for the production of recombinant antibodies. In one technique, an immunogen comprising the polypeptide is initially injected into any of a wide variety of mammals (*e.g., mice, rats, rabbits, sheep or goats*). In this step, the polypeptides of this invention may serve as the immunogen without modification. Alternatively, particularly for relatively short polypeptides, a superior immune response may be elicited if the polypeptide is joined to a carrier protein, such as bovine serum albumin or keyhole limpet hemocyanin. The immunogen is injected into the animal host, preferably according to a predetermined schedule incorporating one or more booster immunizations, and the animals are bled periodically. Polyclonal antibodies specific for the polypeptide may then be purified from such antisera by, for example, affinity chromatography using the polypeptide coupled to a suitable solid support.

Monoclonal antibodies specific for an antigenic polypeptide of interest may be prepared, for example, using the technique of Kohler and Milstein, *Eur. J. Immunol.* 6:511-519, 1976, and improvements thereto. Briefly, these methods involve the preparation of immortal cell lines capable of producing antibodies having the desired specificity (*i.e., reactivity with the polypeptide of interest*). Such cell lines may be produced, for example, from spleen cells obtained from an animal immunized as described above. The spleen cells are then immortalized by, for example, fusion with a myeloma cell fusion partner, preferably one that is syngeneic with the immunized animal. A variety of fusion techniques may be employed. For example, the spleen cells and myeloma cells may be combined with a nonionic detergent for a few minutes and then plated at low density on a selective medium that supports the growth of hybrid cells, but not myeloma cells. A preferred selection technique uses HAT (hypoxanthine, aminopterin, thymidine) selection. After a sufficient

time, usually about 1 to 2 weeks, colonies of hybrids are observed. Single colonies are selected and their culture supernatants tested for binding activity against the polypeptide. Hybridomas having high reactivity and specificity are preferred.

Monoclonal antibodies may be isolated from the supernatants of growing hybridoma colonies. In addition, various techniques may be employed to enhance the yield, such as injection of the hybridoma cell line into the peritoneal cavity of a suitable vertebrate host, such as a mouse. Monoclonal antibodies may then be harvested from the ascites fluid or the blood. Contaminants may be removed from the antibodies by conventional techniques, such as chromatography, gel filtration, precipitation, and extraction. The polypeptides of this invention may be used in the purification process in, for example, an affinity chromatography step.

Within certain embodiments, the use of antigen-binding fragments of antibodies may be preferred. Such fragments include Fab fragments, which may be prepared using standard techniques. Briefly, immunoglobulins may be purified from rabbit serum by affinity chromatography on Protein A bead columns (Harlow and Lane, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988) and digested by papain to yield Fab and Fc fragments. The Fab and Fc fragments may be separated by affinity chromatography on protein A bead columns.

Monoclonal antibodies of the present invention may be coupled to one or more therapeutic agents. Suitable agents in this regard include radionuclides, differentiation inducers, drugs, toxins, and derivatives thereof. Preferred radionuclides include ^{90}Y , ^{123}I , ^{125}I , ^{131}I , ^{186}Re , ^{188}Re , ^{211}At , and ^{212}Bi . Preferred drugs include methotrexate, and pyrimidine and purine analogs. Preferred differentiation inducers include phorbol esters and butyric acid. Preferred toxins include ricin, abrin, diphtheria toxin, cholera toxin, gelonin, *Pseudomonas* exotoxin, *Shigella* toxin, and pokeweed antiviral protein.

A therapeutic agent may be coupled (*e.g.*, covalently bonded) to a suitable monoclonal antibody either directly or indirectly (*e.g.*, via a linker group). A direct reaction between an agent and an antibody is possible when each possesses a substituent capable of reacting with the other. For example, a nucleophilic group, such as an amino or sulfhydryl group, on one may be capable of reacting with a carbonyl-containing group, such as an anhydride or an acid halide, or with an alkyl group containing a good leaving group (*e.g.*, a halide) on the other.

Alternatively, it may be desirable to couple a therapeutic agent and an antibody via a linker group. A linker group can function as a spacer to distance an antibody from an agent in order to avoid interference with binding capabilities. A linker group can also serve to increase the chemical reactivity of a substituent on an agent or an antibody, and

thus increase the coupling efficiency. An increase in chemical reactivity may also facilitate the use of agents, or functional groups on agents, which otherwise would not be possible.

It will be evident to those skilled in the art that a variety of bifunctional or polyfunctional reagents, both homo- and hetero-functional (such as those described in the catalog of the Pierce Chemical Co., Rockford, IL), may be employed as the linker group. Coupling may be effected, for example, through amino groups, carboxyl groups, sulfhydryl groups or oxidized carbohydrate residues. There are numerous references describing such methodology, *e.g.*, U.S. Patent No. 4,671,958, to Rodwell et al.

Where a therapeutic agent is more potent when free from the antibody portion of the immunoconjugates of the present invention, it may be desirable to use a linker group which is cleavable during or upon internalization into a cell. A number of different cleavable linker groups have been described. The mechanisms for the intracellular release of an agent from these linker groups include cleavage by reduction of a disulfide bond (*e.g.*, U.S. Patent No. 4,489,710, to Spitler), by irradiation of a photolabile bond (*e.g.*, U.S. Patent No. 4,625,014, to Senter et al.), by hydrolysis of derivatized amino acid side chains (*e.g.*, U.S. Patent No. 4,638,045, to Kohn et al.), by serum complement-mediated hydrolysis (*e.g.*, U.S. Patent No. 4,671,958, to Rodwell et al.), and acid-catalyzed hydrolysis (*e.g.*, U.S. Patent No. 4,569,789, to Blattler et al.).

It may be desirable to couple more than one agent to an antibody. In one embodiment, multiple molecules of an agent are coupled to one antibody molecule. In another embodiment, more than one type of agent may be coupled to one antibody. Regardless of the particular embodiment, immunoconjugates with more than one agent may be prepared in a variety of ways. For example, more than one agent may be coupled directly to an antibody molecule, or linkers which provide multiple sites for attachment can be used. Alternatively, a carrier can be used.

A carrier may bear the agents in a variety of ways, including covalent bonding either directly or via a linker group. Suitable carriers include proteins such as albumins (*e.g.*, U.S. Patent No. 4,507,234, to Kato et al.), peptides and polysaccharides such as aminodextran (*e.g.*, U.S. Patent No. 4,699,784, to Shih et al.). A carrier may also bear an agent by noncovalent bonding or by encapsulation, such as within a liposome vesicle (*e.g.*, U.S. Patent Nos. 4,429,008 and 4,873,088). Carriers specific for radionuclide agents include radiohalogenated small molecules and chelating compounds. For example, U.S. Patent No. 4,735,792 discloses representative radiohalogenated small molecules and their synthesis. A radionuclide chelate may be formed from chelating compounds that include those containing nitrogen and sulfur atoms as the donor atoms for binding the metal, or metal oxide, radionuclide. For example, U.S. Patent No. 4,673,562, to Davison et al. discloses representative chelating compounds and their synthesis.

A variety of routes of administration for the antibodies and immunoconjugates may be used. Typically, administration will be intravenous, intramuscular, subcutaneous or in the bed of a resected tumor. It will be evident that the precise dose of the antibody/immunoconjugate will vary depending upon the antibody used, the antigen density on the tumor, and the rate of clearance of the antibody.

T CELLS

Immunotherapeutic compositions may also, or alternatively, comprise T cells specific for a prostate tumor protein. Such cells may generally be prepared *in vitro* or *ex vivo*, using standard procedures. For example, T cells may be isolated from bone marrow, peripheral blood, or a fraction of bone marrow or peripheral blood of a patient, using a commercially available cell separation system, such as the CEPRATE™ system, available from CellPro Inc., Bothell WA (*see also* U.S. Patent No. 5,240,856; U.S. Patent No. 5,215,926; WO 89/06280; WO 91/16116 and WO 92/07243). Alternatively, T cells may be derived from related or unrelated humans, non-human mammals, cell lines or cultures.

T cells may be stimulated with a prostate tumor polypeptide, polynucleotide encoding a prostate tumor polypeptide and/or an antigen presenting cell (APC) that expresses such a polypeptide. Such stimulation is performed under conditions and for a time sufficient to permit the generation of T cells that are specific for the polypeptide. Preferably, a prostate tumor polypeptide or polynucleotide is present within a delivery vehicle, such as a microsphere, to facilitate the generation of specific T cells.

T cells are considered to be specific for a prostate tumor polypeptide if the T cells kill target cells coated with the polypeptide or expressing a gene encoding the polypeptide. T cell specificity may be evaluated using any of a variety of standard techniques. For example, within a chromium release assay or proliferation assay, a stimulation index of more than two fold increase in lysis and/or proliferation, compared to negative controls, indicates T cell specificity. Such assays may be performed, for example, as described in Chen et al., *Cancer Res.* 54:1065-1070, 1994. Alternatively, detection of the proliferation of T cells may be accomplished by a variety of known techniques. For example, T cell proliferation can be detected by measuring an increased rate of DNA synthesis (*e.g.*, by pulse-labeling cultures of T cells with tritiated thymidine and measuring the amount of tritiated thymidine incorporated into DNA). Contact with a prostate tumor polypeptide (100 ng/ml - 100 µg/ml, preferably 200 ng/ml - 25 µg/ml) for 3 - 7 days should result in at least a two fold increase in proliferation of the T cells. Contact as described above for 2-3 hours should result in activation of the T cells, as measured using standard cytokine assays in which a two fold increase in the level of cytokine release (*e.g.*, TNF or IFN-γ) is indicative of T cell activation (*see* Coligan et al., *Current Protocols in Immunology*, vol. 1, Wiley Interscience

(Greene 1998)). T cells that have been activated in response to a prostate tumor polypeptide, polynucleotide or polypeptide-expressing APC may be CD4⁺ and/or CD8⁺. Prostate tumor protein-specific T cells may be expanded using standard techniques. Within preferred embodiments, the T cells are derived from either a patient or a related, or unrelated, donor and are administered to the patient following stimulation and expansion.

For therapeutic purposes, CD4⁺ or CD8⁺ T cells that proliferate in response to a prostate tumor polypeptide, polynucleotide or APC can be expanded in number either *in vitro* or *in vivo*. Proliferation of such T cells *in vitro* may be accomplished in a variety of ways. For example, the T cells can be re-exposed to a prostate tumor polypeptide, or a short peptide corresponding to an immunogenic portion of such a polypeptide, with or without the addition of T cell growth factors, such as interleukin-2, and/or stimulator cells that synthesize a prostate tumor polypeptide. Alternatively, one or more T cells that proliferate in the presence of a prostate tumor protein can be expanded in number by cloning. Methods for cloning cells are well known in the art, and include limiting dilution.

PHARMACEUTICAL COMPOSITIONS AND VACCINES

Within certain aspects, polypeptides, polynucleotides, T cells and/or binding agents disclosed herein may be incorporated into pharmaceutical compositions or immunogenic compositions (*i.e.*, vaccines). Pharmaceutical compositions comprise one or more such compounds and a physiologically acceptable carrier. Vaccines may comprise one or more such compounds and a non-specific immune response enhancer. A non-specific immune response enhancer may be any substance that enhances an immune response to an exogenous antigen. Examples of non-specific immune response enhancers include adjuvants, biodegradable microspheres (*e.g.*, polylactic galactide) and liposomes (into which the compound is incorporated; *see e.g.*, Fullerton, U.S. Patent No. 4,235,877). Vaccine preparation is generally described in, for example, M.F. Powell and M.J. Newman, eds., "Vaccine Design (the subunit and adjuvant approach)," Plenum Press (NY, 1995). Pharmaceutical compositions and vaccines within the scope of the present invention may also contain other compounds, which may be biologically active or inactive. For example, one or more immunogenic portions of other tumor antigens may be present, either incorporated into a fusion polypeptide or as a separate compound, within the composition or vaccine.

A pharmaceutical composition or vaccine may contain DNA encoding one or more of the polypeptides as described above, such that the polypeptide is generated *in situ*. As noted above, the DNA may be present within any of a variety of delivery systems known to those of ordinary skill in the art, including nucleic acid expression systems, bacteria and viral expression systems. Numerous gene delivery techniques are well known in the art, such as those described by Rolland, *Crit. Rev. Therap. Drug Carrier Systems* 15:143-198, 1998,

and references cited therein. Appropriate nucleic acid expression systems contain the necessary DNA sequences for expression in the patient (such as a suitable promoter and terminating signal). Bacterial delivery systems involve the administration of a bacterium (such as *Bacillus-Calmette-Guerrin*) that expresses an immunogenic portion of the polypeptide on its cell surface or secretes such an epitope. In a preferred embodiment, the DNA may be introduced using a viral expression system (e.g., vaccinia or other pox virus, retrovirus, or adenovirus), which may involve the use of a non-pathogenic (defective), replication competent virus. Suitable systems are disclosed, for example, in Fisher-Hoch et al., *Proc. Natl. Acad. Sci. USA* 86:317-321, 1989; Flexner et al., *Ann. N.Y. Acad. Sci.* 569:86-103, 1989; Flexner et al., *Vaccine* 8:17-21, 1990; U.S. Patent Nos. 4,603,112, 4,769,330, and 5,017,487; WO 89/01973; U.S. Patent No. 4,777,127; GB 2,200,651; EP 0,345,242; WO 91/02805; Berkner, *Biotechniques* 6:616-627, 1988; Rosenfeld et al., *Science* 252:431-434, 1991; Kolls et al., *Proc. Natl. Acad. Sci. USA* 91:215-219, 1994; Kass-Eisler et al., *Proc. Natl. Acad. Sci. USA* 90:11498-11502, 1993; Guzman et al., *Circulation* 88:2838-2848, 1993; and Guzman et al., *Cir. Res.* 73:1202-1207, 1993. Techniques for incorporating DNA into such expression systems are well known to those of ordinary skill in the art. The DNA may also be "naked," as described, for example, in Ulmer et al., *Science* 259:1745-1749, 1993 and reviewed by Cohen, *Science* 259:1691-1692, 1993. The uptake of naked DNA may be increased by coating the DNA onto biodegradable beads, which are efficiently transported into the cells.

While any suitable carrier known to those of ordinary skill in the art may be employed in the pharmaceutical compositions of this invention, the type of carrier will vary depending on the mode of administration. Compositions of the present invention may be formulated for any appropriate manner of administration, including for example, topical, oral, nasal, intravenous, intracranial, intraperitoneal, subcutaneous or intramuscular administration. For parenteral administration, such as subcutaneous injection, the carrier preferably comprises water, saline, alcohol, a fat, a wax or a buffer. For oral administration, any of the above carriers or a solid carrier, such as mannitol, lactose, starch, magnesium stearate, sodium saccharine, talcum, cellulose, glucose, sucrose, and magnesium carbonate, may be employed. Biodegradable microspheres (e.g., polylactate polyglycolate) may also be employed as carriers for the pharmaceutical compositions of this invention. Suitable biodegradable microspheres are disclosed, for example, in U.S. Patent Nos. 4,897,268 and 5,075,109.

Such compositions may also comprise buffers (e.g., neutral buffered saline or phosphate buffered saline), carbohydrates (e.g., glucose, mannose, sucrose or dextrans), mannitol, proteins, polypeptides or amino acids such as glycine, antioxidants, chelating agents such as EDTA or glutathione, adjuvants (e.g., aluminum hydroxide) and/or

preservatives. Alternatively, compositions of the present invention may be formulated as a lyophilizate. Compounds may also be encapsulated within liposomes using well known technology.

Any of a variety of non-specific immune response enhancers may be employed in the vaccines of this invention. For example, an adjuvant may be included. Most adjuvants contain a substance designed to protect the antigen from rapid catabolism, such as aluminum hydroxide or mineral oil, and a stimulator of immune responses, such as lipid A, *Bordetella pertussis* or *Mycobacterium tuberculosis* derived proteins. Suitable adjuvants are commercially available as, for example, Freund's Incomplete Adjuvant and Complete Adjuvant (Difco Laboratories, Detroit, MI); Merck Adjuvant 65 (Merck and Company, Inc., Rahway, NJ); aluminum salts such as aluminum hydroxide gel (alum) or aluminum phosphate; salts of calcium, iron or zinc; an insoluble suspension of acylated tyrosine; acylated sugars; cationically or anionically derivatized polysaccharides; polyphosphazenes; biodegradable microspheres; monophosphoryl lipid A and quil A. Cytokines, such as GM-CSF or interleukin-2, -7, or -12, may also be used as adjuvants.

Within the vaccines provided herein, the adjuvant composition is preferably designed to induce an immune response predominantly of the Th1 type. High levels of Th1-type cytokines (e.g., IFN- γ , IL-2 and IL-12) tend to favor the induction of cell mediated immune responses to an administered antigen. In contrast, high levels of Th2-type cytokines (e.g., IL-4, IL-5, IL-6, IL-10 and TNF- β) tend to favor the induction of humoral immune responses. Following application of a vaccine as provided herein, a patient will support an immune response that includes Th1- and Th2-type responses. Within a preferred embodiment, in which a response is predominantly Th1-type, the level of Th1-type cytokines will increase to a greater extent than the level of Th2-type cytokines. The levels of these cytokines may be readily assessed using standard assays. For a review of the families of cytokines, see Mosmann and Coffman, *Ann. Rev. Immunol.* 7:145-173, 1989.

Preferred adjuvants for use in eliciting a predominantly Th1-type response include, for example, a combination of monophosphoryl lipid A, preferably 3-de-O-acylated monophosphoryl lipid A (3D-MPL), together with an aluminum salt. MPL adjuvants are available from Ribi ImmunoChem Research Inc. (Hamilton, MT; see US Patent Nos. 4,436,727; 4,877,611; 4,866,034 and 4,912,094). CpG-containing oligonucleotides (in which the CpG dinucleotide is unmethylated) also induce a predominantly Th1 response. Such oligonucleotides are well known and are described, for example, in WO 96/02555. Another preferred adjuvant is a saponin, preferably QS21, which may be used alone or in combination with other adjuvants. For example, an enhanced system involves the combination of a monophosphoryl lipid A and saponin derivative, such as the combination of QS21 and 3D-MPL as described in WO 94/00153, or a less reactogenic composition where the QS21 is

quenched with cholesterol, as described in WO 96/33739. Other preferred formulations comprises an oil-in-water emulsion and tocopherol. A particularly potent adjuvant formulation involving QS21, 3D-MPL and tocopherol in an oil-in-water emulsion is described in WO 95/17210. Any vaccine provided herein may be prepared using well known methods that result in a combination of antigen, immune response enhancer and a suitable carrier or excipient.

The compositions described herein may be administered as part of a sustained release formulation (*i.e.*, a formulation such as a capsule or sponge that effects a slow release of compound following administration). Such formulations may generally be prepared using well known technology and administered by, for example, oral, rectal or subcutaneous implantation, or by implantation at the desired target site. Sustained-release formulations may contain a polypeptide, polynucleotide or antibody dispersed in a carrier matrix and/or contained within a reservoir surrounded by a rate controlling membrane. Carriers for use within such formulations are biocompatible, and may also be biodegradable; preferably the formulation provides a relatively constant level of active component release. The amount of active compound contained within a sustained release formulation depends upon the site of implantation, the rate and expected duration of release and the nature of the condition to be treated or prevented.

Any of a variety of delivery vehicles may be employed within pharmaceutical compositions and vaccines to facilitate production of an antigen-specific immune response that targets tumor cells. Delivery vehicles include antigen presenting cells (APCs), such as dendritic cells, macrophages, B cells, monocytes and other cells that may be engineered to be efficient APCs. Such cells may, but need not, be genetically modified to increase the capacity for presenting the antigen, to improve activation and/or maintenance of the T cell response, to have anti-tumor effects *per se* and/or to be immunologically compatible with the receiver (*i.e.*, matched HLA haplotype). APCs may generally be isolated from any of a variety of biological fluids and organs, including tumor and peritumoral tissues, and may be autologous, allogeneic, syngeneic or xenogeneic cells.

Certain preferred embodiments of the present invention use dendritic cells or progenitors thereof as antigen-presenting cells. Dendritic cells are highly potent APCs (Banchereau and Steinman, *Nature* 392:245-251, 1998) and have been shown to be effective as a physiological adjuvant for eliciting prophylactic or therapeutic antitumor immunity (*see* Timmerman and Levy, *Ann. Rev. Med.* 50:507-529, 1999). In general, dendritic cells may be identified based on their typical shape (stellate *in situ*, with marked cytoplasmic processes (dendrites) visible *in vitro*) and based on the lack of differentiation markers of B cells (CD19 and CD20), T cells (CD3), monocytes (CD14) and natural killer cells (CD56), as determined using standard assays. Dendritic cells may, of course, be engineered to express specific cell-

surface receptors or ligands that are not commonly found on dendritic cells *in vivo* or *ex vivo*, and such modified dendritic cells are contemplated by the present invention. As an alternative to dendritic cells, secreted vesicles antigen-loaded dendritic cells (called exosomes) may be used within a vaccine (*see* Zitvogel et al., *Nature Med.* 4:594-600, 1998).

Dendritic cells and progenitors may be obtained from peripheral blood, bone marrow, tumor-infiltrating cells, peritumoral tissues-infiltrating cells, lymph nodes, spleen, skin, umbilical cord blood or any other suitable tissue or fluid. For example, dendritic cells may be differentiated *ex vivo* by adding a combination of cytokines such as GM-CSF, IL-4, IL-13 and/or TNF α to cultures of monocytes harvested from peripheral blood. Alternatively, CD34 positive cells harvested from peripheral blood, umbilical cord blood or bone marrow may be differentiated into dendritic cells by adding to the culture medium combinations of GM-CSF, IL-3, TNF α , CD40 ligand, LPS, flt3 ligand and/or other compound(s) that induce maturation and proliferation of dendritic cells.

Dendritic cells are conveniently categorized as "immature" and "mature" cells, which allows a simple way to discriminate between two well characterized phenotypes. However, this nomenclature should not be construed to exclude all possible intermediate stages of differentiation. Immature dendritic cells are characterized as APC with a high capacity for antigen uptake and processing, which correlates with the high expression of Fc γ receptor, mannose receptor and DEC-205 marker. The mature phenotype is typically characterized by a lower expression of these markers, but a high expression of cell surface molecules responsible for T cell activation such as class I and class II MHC, adhesion molecules (*e.g.*, CD54 and CD11) and costimulatory molecules (*e.g.*, CD40, CD80 and CD86).

APCs may generally be transfected with a polynucleotide encoding a prostate tumor protein (or portion or other variant thereof) such that the prostate tumor polypeptide, or an immunogenic portion thereof, is expressed on the cell surface. Such transfection may take place *ex vivo*, and a composition or vaccine comprising such transfected cells may then be used for therapeutic purposes, as described herein. Alternatively, a gene delivery vehicle that targets a dendritic or other antigen presenting cell may be administered to a patient, resulting in transfection that occurs *in vivo*. *In vivo* and *ex vivo* transfection of dendritic cells, for example, may generally be performed using any methods known in the art, such as those described in WO 97/24447, or the gene gun approach described by Mahvi et al., *Immunology and cell Biology* 75:456-460, 1997. Antigen loading of dendritic cells may be achieved by incubating dendritic cells or progenitor cells with the prostate tumor polypeptide, DNA (naked or within a plasmid vector) or RNA; or with antigen-expressing recombinant bacterium or viruses (*e.g.*, vaccinia, fowlpox, adenovirus or lentivirus vectors). Prior to loading, the polypeptide may be covalently conjugated to an immunological partner that

provides T cell help (e.g., a carrier molecule). Alternatively, a dendritic cell may be pulsed with a non-conjugated immunological partner, separately or in the presence of the polypeptide.

CANCER THERAPY

In further aspects of the present invention, the compositions described herein may be used for immunotherapy of cancer, such as prostate cancer. Within such methods, pharmaceutical compositions and vaccines are typically administered to a patient. As used herein, a "patient" refers to any warm-blooded animal, preferably a human. A patient may or may not be afflicted with cancer. Accordingly, the above pharmaceutical compositions and vaccines may be used to prevent the development of a cancer or to treat a patient afflicted with a cancer. A cancer may be diagnosed using criteria generally accepted in the art, including the presence of a malignant tumor. Pharmaceutical compositions and vaccines may be administered either prior to or following surgical removal of primary tumors and/or treatment such as administration of radiotherapy or conventional chemotherapeutic drugs.

Within certain embodiments, immunotherapy may be active immunotherapy, in which treatment relies on the *in vivo* stimulation of the endogenous host immune system to react against tumors with the administration of immune response-modifying agents (such as polypeptides and polynucleotides disclosed herein).

Within other embodiments, immunotherapy may be passive immunotherapy, in which treatment involves the delivery of agents with established tumor-immune reactivity (such as effector cells or antibodies) that can directly or indirectly mediate antitumor effects and does not necessarily depend on an intact host immune system. Examples of effector cells include T cells as discussed above, T lymphocytes (such as CD8⁺ cytotoxic T lymphocytes and CD4⁺ T-helper tumor-infiltrating lymphocytes), killer cells (such as Natural Killer cells and lymphokine-activated killer cells), B cells and antigen-presenting cells (such as dendritic cells and macrophages) expressing a polypeptide provided herein. T cell receptors and antibody receptors specific for the polypeptides recited herein may be cloned, expressed and transferred into other vectors or effector cells for adoptive immunotherapy. The polypeptides provided herein may also be used to generate antibodies or anti-idiotypic antibodies (as described above and in U.S. Patent No. 4,918,164) for passive immunotherapy.

Effector cells may generally be obtained in sufficient quantities for adoptive immunotherapy by growth *in vitro*, as described herein. Culture conditions for expanding single antigen-specific effector cells to several billion in number with retention of antigen recognition *in vivo* are well known in the art. Such *in vitro* culture conditions typically use intermittent stimulation with antigen, often in the presence of cytokines (such as IL-2) and non-dividing feeder cells. As noted above, immunoreactive polypeptides as provided herein

may be used to rapidly expand antigen-specific T cell cultures in order to generate a sufficient number of cells for immunotherapy. In particular, antigen-presenting cells, such as dendritic, macrophage, monocyte, fibroblast or B cells, may be pulsed with immunoreactive polypeptides or transfected with one or more polynucleotides using standard techniques well known in the art. For example, antigen-presenting cells can be transfected with a polynucleotide having a promoter appropriate for increasing expression in a recombinant virus or other expression system. Cultured effector cells for use in therapy must be able to grow and distribute widely, and to survive long term *in vivo*. Studies have shown that cultured effector cells can be induced to grow *in vivo* and to survive long term in substantial numbers by repeated stimulation with antigen supplemented with IL-2 (*see, for example, Cheever et al., Immunological Reviews 157:177, 1997*).

Alternatively, a vector expressing a polypeptide recited herein may be introduced into antigen presenting cells taken from a patient and clonally propagated *ex vivo* for transplant back into the same patient. Transfected cells may be reintroduced into the patient using any means known in the art, preferably in sterile form by intravenous, intracavitary, intraperitoneal or intratumor administration.

Routes and frequency of administration of the therapeutic compositions disclosed herein, as well as dosage, will vary from individual to individual, and may be readily established using standard techniques. In general, the pharmaceutical compositions and vaccines may be administered by injection (*e.g.*, intracutaneous, intramuscular, intravenous or subcutaneous), intranasally (*e.g.*, by aspiration) or orally. Preferably, between 1 and 10 doses may be administered over a 52 week period. Preferably, 6 doses are administered, at intervals of 1 month, and booster vaccinations may be given periodically thereafter. Alternate protocols may be appropriate for individual patients. A suitable dose is an amount of a compound that, when administered as described above, is capable of promoting an anti-tumor immune response, and is at least 10-50% above the basal (*i.e.*, untreated) level. Such response can be monitored by measuring the anti-tumor antibodies in a patient or by vaccine-dependent generation of cytolytic effector cells capable of killing the patient's tumor cells *in vitro*. Such vaccines should also be capable of causing an immune response that leads to an improved clinical outcome (*e.g.*, more frequent remissions, complete or partial or longer disease-free survival) in vaccinated patients as compared to non-vaccinated patients. In general, for pharmaceutical compositions and vaccines comprising one or more polypeptides, the amount of each polypeptide present in a dose ranges from about 100 µg to 5 mg per kg of host. Suitable dose sizes will vary with the size of the patient, but will typically range from about 0.1 mL to about 5 mL.

In general, an appropriate dosage and treatment regimen provides the active compound(s) in an amount sufficient to provide therapeutic and/or prophylactic benefit. Such

a response can be monitored by establishing an improved clinical outcome (e.g., more frequent remissions, complete or partial, or longer disease-free survival) in treated patients as compared to non-treated patients. Increases in preexisting immune responses to a prostate tumor protein generally correlate with an improved clinical outcome. Such immune responses may generally be evaluated using standard proliferation, cytotoxicity or cytokine assays, which may be performed using samples obtained from a patient before and after treatment.

METHODS FOR DETECTING CANCER

In general, a cancer may be detected in a patient based on the presence of one or more prostate tumor proteins and/or polynucleotides encoding such proteins in a biological sample (for example, blood, sera, urine and/or tumor biopsies) obtained from the patient. In other words, such proteins may be used as markers to indicate the presence or absence of a cancer such as prostate cancer. In addition, such proteins may be useful for the detection of other cancers. The binding agents provided herein generally permit detection of the level of antigen that binds to the agent in the biological sample. Polynucleotide primers and probes may be used to detect the level of mRNA encoding a tumor protein, which is also indicative of the presence or absence of a cancer. In general, a prostate tumor sequence should be present at a level that is at least three fold higher in tumor tissue than in normal tissue

There are a variety of assay formats known to those of ordinary skill in the art for using a binding agent to detect polypeptide markers in a sample. See, e.g., Harlow and Lane, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988. In general, the presence or absence of a cancer in a patient may be determined by (a) contacting a biological sample obtained from a patient with a binding agent; (b) detecting in the sample a level of polypeptide that binds to the binding agent; and (c) comparing the level of polypeptide with a predetermined cut-off value.

In a preferred embodiment, the assay involves the use of binding agent immobilized on a solid support to bind to and remove the polypeptide from the remainder of the sample. The bound polypeptide may then be detected using a detection reagent that contains a reporter group and specifically binds to the binding agent/polypeptide complex. Such detection reagents may comprise, for example, a binding agent that specifically binds to the polypeptide or an antibody or other agent that specifically binds to the binding agent, such as an anti-immunoglobulin, protein G, protein A or a lectin. Alternatively, a competitive assay may be utilized, in which a polypeptide is labeled with a reporter group and allowed to bind to the immobilized binding agent after incubation of the binding agent with the sample. The extent to which components of the sample inhibit the binding of the labeled polypeptide to the binding agent is indicative of the reactivity of the sample with the immobilized binding

agent. Suitable polypeptides for use within such assays include full length prostate tumor proteins and portions thereof to which the binding agent binds, as described above.

The solid support may be any material known to those of ordinary skill in the art to which the tumor protein may be attached. For example, the solid support may be a test well in a microtiter plate or a nitrocellulose or other suitable membrane. Alternatively, the support may be a bead or disc, such as glass, fiberglass, latex or a plastic material such as polystyrene or polyvinylchloride. The support may also be a magnetic particle or a fiber optic sensor, such as those disclosed, for example, in U.S. Patent No. 5,359,681. The binding agent may be immobilized on the solid support using a variety of techniques known to those of skill in the art, which are amply described in the patent and scientific literature. In the context of the present invention, the term "immobilization" refers to both noncovalent association, such as adsorption, and covalent attachment (which may be a direct linkage between the agent and functional groups on the support or may be a linkage by way of a cross-linking agent). Immobilization by adsorption to a well in a microtiter plate or to a membrane is preferred. In such cases, adsorption may be achieved by contacting the binding agent, in a suitable buffer, with the solid support for a suitable amount of time. The contact time varies with temperature, but is typically between about 1 hour and about 1 day. In general, contacting a well of a plastic microtiter plate (such as polystyrene or polyvinylchloride) with an amount of binding agent ranging from about 10 ng to about 10 μ g, and preferably about 100 ng to about 1 μ g, is sufficient to immobilize an adequate amount of binding agent.

Covalent attachment of binding agent to a solid support may generally be achieved by first reacting the support with a bifunctional reagent that will react with both the support and a functional group, such as a hydroxyl or amino group, on the binding agent. For example, the binding agent may be covalently attached to supports having an appropriate polymer coating using benzoquinone or by condensation of an aldehyde group on the support with an amine and an active hydrogen on the binding partner (*see, e.g.*, Pierce Immunotechnology Catalog and Handbook, 1991, at A12-A13).

In certain embodiments, the assay is a two-antibody sandwich assay. This assay may be performed by first contacting an antibody that has been immobilized on a solid support, commonly the well of a microtiter plate, with the sample, such that polypeptides within the sample are allowed to bind to the immobilized antibody. Unbound sample is then removed from the immobilized polypeptide-antibody complexes and a detection reagent (preferably a second antibody capable of binding to a different site on the polypeptide) containing a reporter group is added. The amount of detection reagent that remains bound to the solid support is then determined using a method appropriate for the specific reporter group.

More specifically, once the antibody is immobilized on the support as described above, the remaining protein binding sites on the support are typically blocked. Any suitable blocking agent known to those of ordinary skill in the art, such as bovine serum albumin or Tween 20™ (Sigma Chemical Co., St. Louis, MO). The immobilized antibody is then incubated with the sample, and polypeptide is allowed to bind to the antibody. The sample may be diluted with a suitable diluent, such as phosphate-buffered saline (PBS) prior to incubation. In general, an appropriate contact time (*i.e.*, incubation time) is a period of time that is sufficient to detect the presence of polypeptide within a sample obtained from an individual with prostate cancer. Preferably, the contact time is sufficient to achieve a level of binding that is at least about 95% of that achieved at equilibrium between bound and unbound polypeptide. Those of ordinary skill in the art will recognize that the time necessary to achieve equilibrium may be readily determined by assaying the level of binding that occurs over a period of time. At room temperature, an incubation time of about 30 minutes is generally sufficient.

Unbound sample may then be removed by washing the solid support with an appropriate buffer, such as PBS containing 0.1% Tween 20™. The second antibody, which contains a reporter group, may then be added to the solid support. Preferred reporter groups include those groups recited above.

The detection reagent is then incubated with the immobilized antibody-polypeptide complex for an amount of time sufficient to detect the bound polypeptide. An appropriate amount of time may generally be determined by assaying the level of binding that occurs over a period of time. Unbound detection reagent is then removed and bound detection reagent is detected using the reporter group. The method employed for detecting the reporter group depends upon the nature of the reporter group. For radioactive groups, scintillation counting or autoradiographic methods are generally appropriate. Spectroscopic methods may be used to detect dyes, luminescent groups and fluorescent groups. Biotin may be detected using avidin, coupled to a different reporter group (commonly a radioactive or fluorescent group or an enzyme). Enzyme reporter groups may generally be detected by the addition of substrate (generally for a specific period of time), followed by spectroscopic or other analysis of the reaction products.

To determine the presence or absence of a cancer, such as prostate cancer, the signal detected from the reporter group that remains bound to the solid support is generally compared to a signal that corresponds to a predetermined cut-off value. In one preferred embodiment, the cut-off value for the detection of a cancer is the average mean signal obtained when the immobilized antibody is incubated with samples from patients without the cancer. In general, a sample generating a signal that is three standard deviations above the predetermined cut-off value is considered positive for the cancer. In an alternate preferred

embodiment, the cut-off value is determined using a Receiver Operator Curve, according to the method of Sackett et al., *Clinical Epidemiology: A Basic Science for Clinical Medicine*, Little Brown and Co., 1985, p. 106-7. Briefly, in this embodiment, the cut-off value may be determined from a plot of pairs of true positive rates (*i.e.*, sensitivity) and false positive rates (100%-specificity) that correspond to each possible cut-off value for the diagnostic test result. The cut-off value on the plot that is the closest to the upper left-hand corner (*i.e.*, the value that encloses the largest area) is the most accurate cut-off value, and a sample generating a signal that is higher than the cut-off value determined by this method may be considered positive. Alternatively, the cut-off value may be shifted to the left along the plot, to minimize the false positive rate, or to the right, to minimize the false negative rate. In general, a sample generating a signal that is higher than the cut-off value determined by this method is considered positive for a cancer.

In a related embodiment, the assay is performed in a flow-through or strip test format, wherein the binding agent is immobilized on a membrane, such as nitrocellulose. In the flow-through test, polypeptides within the sample bind to the immobilized binding agent as the sample passes through the membrane. A second, labeled binding agent then binds to the binding agent-polypeptide complex as a solution containing the second binding agent flows through the membrane. The detection of bound second binding agent may then be performed as described above. In the strip test format, one end of the membrane to which binding agent is bound is immersed in a solution containing the sample. The sample migrates along the membrane through a region containing second binding agent and to the area of immobilized binding agent. Concentration of second binding agent at the area of immobilized antibody indicates the presence of a cancer. Typically, the concentration of second binding agent at that site generates a pattern, such as a line, that can be read visually. The absence of such a pattern indicates a negative result. In general, the amount of binding agent immobilized on the membrane is selected to generate a visually discernible pattern when the biological sample contains a level of polypeptide that would be sufficient to generate a positive signal in the two-antibody sandwich assay, in the format discussed above. Preferred binding agents for use in such assays are antibodies and antigen-binding fragments thereof. Preferably, the amount of antibody immobilized on the membrane ranges from about 25 ng to about 1 μ g, and more preferably from about 50 ng to about 500 ng. Such tests can typically be performed with a very small amount of biological sample.

Of course, numerous other assay protocols exist that are suitable for use with the tumor proteins or binding agents of the present invention. The above descriptions are intended to be exemplary only. For example, it will be apparent to those of ordinary skill in the art that the above protocols may be readily modified to use prostate tumor polypeptides to

detect antibodies that bind to such polypeptides in a biological sample. The detection of such prostate tumor protein specific antibodies may correlate with the presence of a cancer.

A cancer may also, or alternatively, be detected based on the presence of T cells that specifically react with a prostate tumor protein in a biological sample. Within certain methods, a biological sample comprising CD4⁺ and/or CD8⁺ T cells isolated from a patient is incubated with a prostate tumor polypeptide, a polynucleotide encoding such a polypeptide and/or an APC that expresses at least an immunogenic portion of such a polypeptide, and the presence or absence of specific activation of the T cells is detected. Suitable biological samples include, but are not limited to, isolated T cells. For example, T cells may be isolated from a patient by routine techniques (such as by Ficoll/Hypaque density gradient centrifugation of peripheral blood lymphocytes). T cells may be incubated *in vitro* for 2-9 days (typically 4 days) at 37°C with prostate tumor polypeptide (*e.g.*, 5 - 25 µg/ml). It may be desirable to incubate another aliquot of a T cell sample in the absence of prostate tumor polypeptide to serve as a control. For CD4⁺ T cells, activation is preferably detected by evaluating proliferation of the T cells. For CD8⁺ T cells, activation is preferably detected by evaluating cytolytic activity. A level of proliferation that is at least two fold greater and/or a level of cytolytic activity that is at least 20% greater than in disease-free patients indicates the presence of a cancer in the patient.

As noted above, a cancer may also, or alternatively, be detected based on the level of mRNA encoding a prostate tumor protein in a biological sample. For example, at least two oligonucleotide primers may be employed in a polymerase chain reaction (PCR) based assay to amplify a portion of a prostate tumor cDNA derived from a biological sample, wherein at least one of the oligonucleotide primers is specific for (*i.e.*, hybridizes to) a polynucleotide encoding the prostate tumor protein. The amplified cDNA is then separated and detected using techniques well known in the art, such as gel electrophoresis. Similarly, oligonucleotide probes that specifically hybridize to a polynucleotide encoding a prostate tumor protein may be used in a hybridization assay to detect the presence of polynucleotide encoding the tumor protein in a biological sample.

To permit hybridization under assay conditions, oligonucleotide primers and probes should comprise an oligonucleotide sequence that has at least about 60%, preferably at least about 75% and more preferably at least about 90%, identity to a portion of a polynucleotide encoding a prostate tumor protein that is at least 10 nucleotides, and preferably at least 20 nucleotides, in length. Preferably, oligonucleotide primers and/or probes will hybridize to a polynucleotide encoding a polypeptide disclosed herein under moderately stringent conditions, as defined above. Oligonucleotide primers and/or probes which may be usefully employed in the diagnostic methods described herein preferably are at least 10-40 nucleotides in length. In a preferred embodiment, the oligonucleotide primers

comprise at least 10 contiguous nucleotides, more preferably at least 15 contiguous nucleotides, of a DNA molecule having a sequence recited in SEQ ID NO: 1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375 and 381. Techniques for both PCR based assays and hybridization assays are well known in the art (*see, for example, Mullis et al., Cold Spring Harbor Symp. Quant. Biol., 51:263, 1987; Erlich ed., PCR Technology, Stockton Press, NY, 1989*).

One preferred assay employs RT-PCR, in which PCR is applied in conjunction with reverse transcription. Typically, RNA is extracted from a biological sample, such as biopsy tissue, and is reverse transcribed to produce cDNA molecules. PCR amplification using at least one specific primer generates a cDNA molecule, which may be separated and visualized using, for example, gel electrophoresis. Amplification may be performed on biological samples taken from a test patient and from an individual who is not afflicted with a cancer. The amplification reaction may be performed on several dilutions of cDNA spanning two orders of magnitude. A two-fold or greater increase in expression in several dilutions of the test patient sample as compared to the same dilutions of the non-cancerous sample is typically considered positive.

In another embodiment, the disclosed compositions may be used as markers for the progression of cancer. In this embodiment, assays as described above for the diagnosis of a cancer may be performed over time, and the change in the level of reactive polypeptide(s) or polynucleotide evaluated. For example, the assays may be performed every 24-72 hours for a period of 6 months to 1 year, and thereafter performed as needed. In general, a cancer is progressing in those patients in whom the level of polypeptide or polynucleotide detected increases over time. In contrast, the cancer is not progressing when the level of reactive polypeptide or polynucleotide either remains constant or decreases with time.

Certain *in vivo* diagnostic assays may be performed directly on a tumor. One such assay involves contacting tumor cells with a binding agent. The bound binding agent may then be detected directly or indirectly via a reporter group. Such binding agents may also be used in histological applications. Alternatively, polynucleotide probes may be used within such applications.

As noted above, to improve sensitivity, multiple prostate tumor protein markers may be assayed within a given sample. It will be apparent that binding agents specific for different proteins provided herein may be combined within a single assay. Further, multiple primers or probes may be used concurrently. The selection of tumor protein markers may be based on routine experiments to determine combinations that results in optimal sensitivity. In addition, or alternatively, assays for tumor proteins provided herein may be combined with assays for other known tumor antigens.

DIAGNOSTIC KITS

The present invention further provides kits for use within any of the above diagnostic methods. Such kits typically comprise two or more components necessary for performing a diagnostic assay. Components may be compounds, reagents, containers and/or equipment. For example, one container within a kit may contain a monoclonal antibody or fragment thereof that specifically binds to a prostate tumor protein. Such antibodies or fragments may be provided attached to a support material, as described above. One or more additional containers may enclose elements, such as reagents or buffers, to be used in the assay. Such kits may also, or alternatively, contain a detection reagent as described above that contains a reporter group suitable for direct or indirect detection of antibody binding.

Alternatively, a kit may be designed to detect the level of mRNA encoding a prostate tumor protein in a biological sample. Such kits generally comprise at least one oligonucleotide probe or primer, as described above, that hybridizes to a polynucleotide encoding a prostate tumor protein. Such an oligonucleotide may be used, for example, within a PCR or hybridization assay. Additional components that may be present within such kits include a second oligonucleotide and/or a diagnostic reagent or container to facilitate the detection of a polynucleotide encoding a prostate tumor protein.

The following Examples are offered by way of illustration and not by way of limitation.

EXAMPLES

EXAMPLE 1

ISOLATION AND CHARACTERIZATION OF PROSTATE TUMOR POLYPEPTIDES

This Example describes the isolation of certain prostate tumor polypeptides from a prostate tumor cDNA library.

A human prostate tumor cDNA expression library was constructed from prostate tumor poly A⁺ RNA using a Superscript Plasmid System for cDNA Synthesis and Plasmid Cloning kit (BRL Life Technologies, Gaithersburg, MD 20897) following the manufacturer's protocol. Specifically, prostate tumor tissues were homogenized with polytron (Kinematica, Switzerland) and total RNA was extracted using Trizol reagent (BRL Life Technologies) as directed by the manufacturer. The poly A⁺ RNA was then purified using a Qiagen oligotex spin column mRNA purification kit (Qiagen, Santa Clarita, CA 91355) according to the manufacturer's protocol. First-strand cDNA was synthesized using the NotI/Oligo-dT18 primer. Double-stranded cDNA was synthesized, ligated with EcoRI/BAXI adaptors (Invitrogen, San Diego, CA) and digested with NotI. Following size fractionation with Chroma Spin-1000 columns (Clontech, Palo Alto, CA), the cDNA was ligated into the EcoRI/NotI site of pCDNA3.1 (Invitrogen) and transformed into ElectroMax *E. coli* DH10B cells (BRL Life Technologies) by electroporation.

Using the same procedure, a normal human pancreas cDNA expression library was prepared from a pool of six tissue specimens (Clontech). The cDNA libraries were characterized by determining the number of independent colonies, the percentage of clones that carried insert, the average insert size and by sequence analysis. The prostate tumor library contained 1.64×10^7 independent colonies, with 70% of clones having an insert and the average insert size being 1745 base pairs. The normal pancreas cDNA library contained 3.3×10^6 independent colonies, with 69% of clones having inserts and the average insert size being 1120 base pairs. For both libraries, sequence analysis showed that the majority of clones had a full length cDNA sequence and were synthesized from mRNA, with minimal rRNA and mitochondrial DNA contamination.

cDNA library subtraction was performed using the above prostate tumor and normal pancreas cDNA libraries, as described by Hara *et al.* (*Blood*, 84:189-199, 1994) with some modifications. Specifically, a prostate tumor-specific subtracted cDNA library was generated as follows. Normal pancreas cDNA library (70 µg) was digested with EcoRI, NotI, and SfuI, followed by a filling-in reaction with DNA polymerase Klenow fragment. After phenol-chloroform extraction and ethanol precipitation, the DNA was dissolved in 100 µl of

H₂O, heat-denatured and mixed with 100 μ l (100 μ g) of Photoprobe biotin (Vector Laboratories, Burlingame, CA). As recommended by the manufacturer, the resulting mixture was irradiated with a 270 W sunlamp on ice for 20 minutes. Additional Photoprobe biotin (50 μ l) was added and the biotinylation reaction was repeated. After extraction with butanol five times, the DNA was ethanol-precipitated and dissolved in 23 μ l H₂O to form the driver DNA.

To form the tracer DNA, 10 μ g prostate tumor cDNA library was digested with BamHI and XhoI, phenol chloroform extracted and passed through Chroma spin-400 columns (Clontech). Following ethanol precipitation, the tracer DNA was dissolved in 5 μ l H₂O. Tracer DNA was mixed with 15 μ l driver DNA and 20 μ l of 2 x hybridization buffer (1.5 M NaCl/10 mM EDTA/50 mM HEPES pH 7.5/0.2% sodium dodecyl sulfate), overlaid with mineral oil, and heat-denatured completely. The sample was immediately transferred into a 68 °C water bath and incubated for 20 hours (long hybridization [LH]). The reaction mixture was then subjected to a streptavidin treatment followed by phenol/chloroform extraction. This process was repeated three more times. Subtracted DNA was precipitated, dissolved in 12 μ l H₂O, mixed with 8 μ l driver DNA and 20 μ l of 2 x hybridization buffer, and subjected to a hybridization at 68 °C for 2 hours (short hybridization [SH]). After removal of biotinylated double-stranded DNA, subtracted cDNA was ligated into BamHI/XhoI site of chloramphenicol resistant pBCSK⁺ (Stratagene, La Jolla, CA 92037) and transformed into ElectroMax *E. coli* DH10B cells by electroporation to generate a prostate tumor specific subtracted cDNA library (referred to as "prostate subtraction 1").

To analyze the subtracted cDNA library, plasmid DNA was prepared from 100 independent clones, randomly picked from the subtracted prostate tumor specific library and grouped based on insert size. Representative cDNA clones were further characterized by DNA sequencing with a Perkin Elmer/Applied Biosystems Division Automated Sequencer Model 373A (Foster City, CA). Six cDNA clones, hereinafter referred to as F1-13, F1-12, F1-16, H1-1, H1-9 and H1-4, were shown to be abundant in the subtracted prostate-specific cDNA library. The determined 3' and 5' cDNA sequences for F1-12 are provided in SEQ ID NO: 2 and 3, respectively, with determined 3' cDNA sequences for F1-13, F1-16, H1-1, H1-9 and H1-4 being provided in SEQ ID NO: 1 and 4-7, respectively.

The cDNA sequences for the isolated clones were compared to known sequences in the gene bank using the EMBL and GenBank databases (release 96). Four of the prostate tumor cDNA clones, F1-13, F1-16, H1-1, and H1-4, were determined to encode the following previously identified proteins: prostate specific antigen (PSA), human glandular kallikrein, human tumor expression enhanced gene, and mitochondria cytochrome C oxidase subunit II. H1-9 was found to be identical to a previously identified human

autonomously replicating sequence. No significant homologies to the cDNA sequence for F1-12 were found.

Subsequent studies led to the isolation of a full-length cDNA sequence for F1-12. This sequence is provided in SEQ ID NO: 107, with the corresponding predicted amino acid sequence being provided in SEQ ID NO: 108.

To clone less abundant prostate tumor specific genes, cDNA library subtraction was performed by subtracting the prostate tumor cDNA library described above with the normal pancreas cDNA library and with the three most abundant genes in the previously subtracted prostate tumor specific cDNA library: human glandular kallikrein, prostate specific antigen (PSA), and mitochondria cytochrome C oxidase subunit II. Specifically, 1 µg each of human glandular kallikrein, PSA and mitochondria cytochrome C oxidase subunit II cDNAs in pCDNA3.1 were added to the driver DNA and subtraction was performed as described above to provide a second subtracted cDNA library hereinafter referred to as the "subtracted prostate tumor specific cDNA library with spike".

Twenty-two cDNA clones were isolated from the subtracted prostate tumor specific cDNA library with spike. The determined 3' and 5' cDNA sequences for the clones referred to as J1-17, L1-12, N1-1862, J1-13, J1-19, J1-25, J1-24, K1-58, K1-63, L1-4 and L1-14 are provided in SEQ ID NOS: 8-9, 10-11, 12-13, 14-15, 16-17, 18-19, 20-21, 22-23, 24-25, 26-27 and 28-29, respectively. The determined 3' cDNA sequences for the clones referred to as J1-12, J1-16, J1-21, K1-48, K1-55, L1-2, L1-6, N1-1858, N1-1860, N1-1861, N1-1864 are provided in SEQ ID NOS: 30-40, respectively. Comparison of these sequences with those in the gene bank as described above, revealed no significant homologies to three of the five most abundant DNA species, (J1-17, L1-12 and N1-1862; SEQ ID NOS: 8-9, 10-11 and 12-13, respectively). Of the remaining two most abundant species, one (J1-12; SEQ ID NO:30) was found to be identical to the previously identified human pulmonary surfactant-associated protein, and the other (K1-48; SEQ ID NO:33) was determined to have some homology to *R. norvegicus* mRNA for 2-arylpropionyl-CoA epimerase. Of the 17 less abundant cDNA clones isolated from the subtracted prostate tumor specific cDNA library with spike, four (J1-16, K1-55, L1-6 and N1-1864; SEQ ID NOS:31, 34, 36 and 40, respectively) were found to be identical to previously identified sequences, two (J1-21 and N1-1860; SEQ ID NOS: 32 and 38, respectively) were found to show some homology to non-human sequences, and two (L1-2 and N1-1861; SEQ ID NOS: 35 and 39, respectively) were found to show some homology to known human sequences. No significant homologies were found to the polypeptides J1-13, J1-19, J1-24, J1-25, K1-58, K1-63, L1-4, L1-14 (SEQ ID NOS: 14-15, 16-17, 20-21, 18-19, 22-23, 24-25, 26-27, 28-29, respectively).

Subsequent studies led to the isolation of full length cDNA sequences for J1-17, L1-12 and N1-1862 (SEQ ID NOS: 109-111, respectively). The corresponding predicted

amino acid sequences are provided in SEQ ID NOS: 112-114. L1-12 is also referred to as P501S.

In a further experiment, four additional clones were identified by subtracting a prostate tumor cDNA library with normal prostate cDNA prepared from a pool of three normal prostate poly A+ RNA (referred to as "prostate subtraction 2"). The determined cDNA sequences for these clones, hereinafter referred to as U1-3064, U1-3065, V1-3692 and 1A-3905, are provided in SEQ ID NO: 69-72, respectively. Comparison of the determined sequences with those in the gene bank revealed no significant homologies to U1-3065.

A second subtraction with spike (referred to as "prostate subtraction spike 2") was performed by subtracting a prostate tumor specific cDNA library with spike with normal pancreas cDNA library and further spiked with PSA, J1-17, pulmonary surfactant-associated protein, mitochondrial DNA, cytochrome c oxidase subunit II, N1-1862, autonomously replicating sequence, L1-12 and tumor expression enhanced gene. Four additional clones, hereinafter referred to as V1-3686, R1-2330, 1B-3976 and V1-3679, were isolated. The determined cDNA sequences for these clones are provided in SEQ ID NO: 73-76, respectively. Comparison of these sequences with those in the gene bank revealed no significant homologies to V1-3686 and R1-2330.

Further analysis of the three prostate subtractions described above (prostate subtraction 2, subtracted prostate tumor specific cDNA library with spike, and prostate subtraction spike 2) resulted in the identification of sixteen additional clones, referred to as 1G-4736, 1G-4738, 1G-4741, 1G-4744, 1G-4734, 1H-4774, 1H-4781, 1H-4785, 1H-4787, 1H-4796, 1I-4810, 1I-4811, 1J-4876, 1K-4884 and 1K-4896. The determined cDNA sequences for these clones are provided in SEQ ID NOS: 77-92, respectively. Comparison of these sequences with those in the gene bank as described above, revealed no significant homologies to 1G-4741, 1G-4734, 1I-4807, 1J-4876 and 1K-4896 (SEQ ID NOS: 79, 81, 87, 90 and 92, respectively). Further analysis of the isolated clones led to the determination of extended cDNA sequences for 1G-4736, 1G-4738, 1G-4741, 1G-4744, 1H-4774, 1H-4781, 1H-4785, 1H-4787, 1H-4796, 1I-4807, 1J-4876, 1K-4884 and 1K-4896, provided in SEQ ID NOS: 179-188 and 191-193, respectively, and to the determination of additional partial cDNA sequences for 1I-4810 and 1I-4811, provided in SEQ ID NOS: 189 and 190, respectively.

Additional studies with prostate subtraction spike 2 resulted in the isolation of three more clones. Their sequences were determined as described above and compared to the most recent GenBank. All three clones were found to have homology to known genes, which are Cysteine-rich protein, KIAA0242, and KIAA0280 (SEQ ID NO: 317, 319, and 320, respectively). Further analysis of these clones by Synteni microarray (Synteni, Palo Alto, CA) demonstrated that all three clones were over-expressed in most prostate tumors and

prostate BPH, as well as in the majority of normal prostate tissues tested, but low expression in all other normal tissues.

An additional subtraction was performed by subtracting a normal prostate cDNA library with normal pancreas cDNA (referred to as "prostate subtraction 3"). This led to the identification of six additional clones referred to as 1G-4761, 1G-4762, 1H-4766, 1H-4770, 1H-4771 and 1H-4772 (SEQ ID NOS: 93-98). Comparison of these sequences with those in the gene bank revealed no significant homologies to 1G-4761 and 1H-4771 (SEQ ID NOS: 93 and 97, respectively). Further analysis of the isolated clones led to the determination of extended cDNA sequences for 1G-4761, 1G-4762, 1H-4766 and 1H-4772 provided in SEQ ID NOS: 194-196 and 199, respectively, and to the determination of additional partial cDNA sequences for 1H-4770 and 1H-4771, provided in SEQ ID NOS: 197 and 198, respectively.

Subtraction of a prostate tumor cDNA library, prepared from a pool of polyA+ RNA from three prostate cancer patients, with a normal pancreas cDNA library (prostate subtraction 4) led to the identification of eight clones, referred to as 1D-4297, 1D-4309, 1D.1-4278, 1D-4288, 1D-4283, 1D-4304, 1D-4296 and 1D-4280 (SEQ ID NOS: 99-107). These sequences were compared to those in the gene bank as described above. No significant homologies were found to 1D-4283 and 1D-4304 (SEQ ID NOS: 103 and 104, respectively). Further analysis of the isolated clones led to the determination of extended cDNA sequences for 1D-4309, 1D.1-4278, 1D-4288, 1D-4283, 1D-4304, 1D-4296 and 1D-4280, provided in SEQ ID NOS: 200-206, respectively.

cDNA clones isolated in prostate subtraction 1 and prostate subtraction 2, described above, were colony PCR amplified and their mRNA expression levels in prostate tumor, normal prostate and in various other normal tissues were determined using microarray technology (Synteni, Palo Alto, CA). Briefly, the PCR amplification products were dotted onto slides in an array format, with each product occupying a unique location in the array. mRNA was extracted from the tissue sample to be tested, reverse transcribed, and fluorescent-labeled cDNA probes were generated. The microarrays were probed with the labeled cDNA probes, the slides scanned and fluorescence intensity was measured. This intensity correlates with the hybridization intensity. Two clones (referred to as P509S and P510S) were found to be over-expressed in prostate tumor and normal prostate and expressed at low levels in all other normal tissues tested (liver, pancreas, skin, bone marrow, brain, breast, adrenal gland, bladder, testes, salivary gland, large intestine, kidney, ovary, lung, spinal cord, skeletal muscle and colon). The determined cDNA sequences for P509S and P510S are provided in SEQ ID NO: 223 and 224, respectively. Comparison of these sequences with those in the gene bank as described above, revealed some homology to previously identified ESTs.

Additional, studies led to the isolation of the full-length cDNA sequence for P509S. This sequence is provided in SEQ ID NO: 332, with the corresponding predicted amino acid sequence being provided in SEQ ID NO: 339.

EXAMPLE 2

DETERMINATION OF TISSUE SPECIFICITY OF PROSTATE TUMOR POLYPEPTIDES

Using gene specific primers, mRNA expression levels for the representative prostate tumor polypeptides F1-16, H1-1, J1-17 (also referred to as P502S), L1-12 (also referred to as P501S), F1-12 (also referred to as P504S) and N1-1862 (also referred to as P503S) were examined in a variety of normal and tumor tissues using RT-PCR.

Briefly, total RNA was extracted from a variety of normal and tumor tissues using Trizol reagent as described above. First strand synthesis was carried out using 1-2 μ g of total RNA with SuperScript II reverse transcriptase (BRL Life Technologies) at 42 °C for one hour. The cDNA was then amplified by PCR with gene-specific primers. To ensure the semi-quantitative nature of the RT-PCR, β -actin was used as an internal control for each of the tissues examined. First, serial dilutions of the first strand cDNAs were prepared and RT-PCR assays were performed using β -actin specific primers. A dilution was then chosen that enabled the linear range amplification of the β -actin template and which was sensitive enough to reflect the differences in the initial copy numbers. Using these conditions, the β -actin levels were determined for each reverse transcription reaction from each tissue. DNA contamination was minimized by DNase treatment and by assuring a negative PCR result when using first strand cDNA that was prepared without adding reverse transcriptase.

mRNA Expression levels were examined in four different types of tumor tissue (prostate tumor from 2 patients, breast tumor from 3 patients, colon tumor, lung tumor), and sixteen different normal tissues, including prostate, colon, kidney, liver, lung, ovary, pancreas, skeletal muscle, skin, stomach, testes, bone marrow and brain. F1-16 was found to be expressed at high levels in prostate tumor tissue, colon tumor and normal prostate, and at lower levels in normal liver, skin and testes, with expression being undetectable in the other tissues examined. H1-1 was found to be expressed at high levels in prostate tumor, lung tumor, breast tumor, normal prostate, normal colon and normal brain, at much lower levels in normal lung, pancreas, skeletal muscle, skin, small intestine, bone marrow, and was not detected in the other tissues tested. J1-17 (P502S) and L1-12 (P501S) appear to be specifically over-expressed in prostate, with both genes being expressed at high levels in prostate tumor and normal prostate but at low to undetectable levels in all the other tissues examined. N1-1862 (P503S) was found to be over-expressed in 60% of prostate tumors and detectable in normal colon and kidney. The RT-PCR results thus indicate that

F1-16, H1-1, J1-17 (P502S), N1-1862 (P503S) and L1-12 (P501S) are either prostate specific or are expressed at significantly elevated levels in prostate.

Further RT-PCR studies showed that F1-12 (P504S) is over-expressed in 60% of prostate tumors, detectable in normal kidney but not detectable in all other tissues tested. Similarly, R1-2330 was shown to be over-expressed in 40% of prostate tumors, detectable in normal kidney and liver, but not detectable in all other tissues tested. U1-3064 was found to be over-expressed in 60% of prostate tumors, and also expressed in breast and colon tumors, but was not detectable in normal tissues.

RT-PCR characterization of R1-2330, U1-3064 and 1D-4279 showed that these three antigens are over-expressed in prostate and/or prostate tumors.

Northern analysis with four prostate tumors, two normal prostate samples, two BPH prostates, and normal colon, kidney, liver, lung, pancreas, skeletal muscle, brain, stomach, testes, small intestine and bone marrow, showed that L1-12 (P501S) is over-expressed in prostate tumors and normal prostate, while being undetectable in other normal tissues tested. J1-17 (P502S) was detected in two prostate tumors and not in the other tissues tested. N1-1862 (P503S) was found to be over-expressed in three prostate tumors and to be expressed in normal prostate, colon and kidney, but not in other tissues tested. F1-12 (P504S) was found to be highly expressed in two prostate tumors and to be undetectable in all other tissues tested.

The microarray technology described above was used to determine the expression levels of representative antigens described herein in prostate tumor, breast tumor and the following normal tissues: prostate, liver, pancreas, skin, bone marrow, brain, breast, adrenal gland, bladder, testes, salivary gland, large intestine, kidney, ovary, lung, spinal cord, skeletal muscle and colon. L1-12 (P501S) was found to be over-expressed in normal prostate and prostate tumor, with some expression being detected in normal skeletal muscle. Both J1-12 and F1-12 (P504S) were found to be over-expressed in prostate tumor, with expression being lower or undetectable in all other tissues tested. N1-1862 (P503S) was found to be expressed at high levels in prostate tumor and normal prostate, and at low levels in normal large intestine and normal colon, with expression being undetectable in all other tissues tested. R1-2330 was found to be over-expressed in prostate tumor and normal prostate, and to be expressed at lower levels in all other tissues tested. 1D-4279 was found to be over-expressed in prostate tumor and normal prostate, expressed at lower levels in normal spinal cord, and to be undetectable in all other tissues tested.

Further microarray analysis to specifically address the extent to which P501S (SEQ ID NO: 110) was expressed in breast tumor revealed moderate over-expression not only in breast tumor, but also in metastatic breast tumor (2/31), with negligible to low expression

in normal tissues. This data suggests that P501S may be over-expressed in various breast tumors as well as in prostate tumors.

The expression levels of 32 ESTs (expressed sequence tags) described by Vasmatazis *et al.* (*Proc. Natl. Acad. Sci. USA* 95:300-304, 1998) in a variety of tumor and normal tissues were examined by microarray technology as described above. Two of these clones (referred to as P1000C and P1001C) were found to be over-expressed in prostate tumor and normal prostate, and expressed at low to undetectable levels in all other tissues tested (normal aorta, thymus, resting and activated PBMC, epithelial cells, spinal cord, adrenal gland, fetal tissues, skin, salivary gland, large intestine, bone marrow, liver, lung, dendritic cells, stomach, lymph nodes, brain, heart, small intestine, skeletal muscle, colon and kidney. The determined cDNA sequences for P1000C and P1001C are provided in SEQ ID NO: 384 and 472, respectively. The sequence of P1001C was found to show some homology to the previously isolated Human mRNA for JM27 protein. No significant homologies were found to the sequence of P1000C.

The expression of the polypeptide encoded by the full length cDNA sequence for F1-12 (also referred to as P504S; SEQ ID NO: 108) was investigated by immunohistochemical analysis. Rabbit-anti-P504S polyclonal antibodies were generated against the full length P504S protein by standard techniques. Subsequent isolation and characterization of the polyclonal antibodies were also performed by techniques well known in the art. Immunohistochemical analysis showed that the P504S polypeptide was expressed in 100% of prostate carcinoma samples tested (n=5).

The rabbit-anti-P504S polyclonal antibody did not appear to label benign prostate cells with the same cytoplasmic granular staining, but rather with light nuclear staining. Analysis of normal tissues revealed that the encoded polypeptide was found to be expressed in some, but not all normal human tissues. Positive cytoplasmic staining with rabbit-anti-P504S polyclonal antibody was found in normal human kidney, liver, brain, colon and lung-associated macrophages, whereas heart and bone marrow were negative.

This data indicates that the P504S polypeptide is present in prostate cancer tissues, and that there are qualitative and quantitative differences in the staining between benign prostatic hyperplasia tissues and prostate cancer tissues, suggesting that this polypeptide may be detected selectively in prostate tumors and therefore be useful in the diagnosis of prostate cancer.

EXAMPLE 3

ISOLATION AND CHARACTERIZATION OF PROSTATE TUMOR POLYPEPTIDES BY PCR-BASED SUBTRACTION

A cDNA subtraction library, containing cDNA from normal prostate subtracted with ten other normal tissue cDNAs (brain, heart, kidney, liver, lung, ovary, placenta, skeletal muscle, spleen and thymus) and then submitted to a first round of PCR amplification, was purchased from Clontech. This library was subjected to a second round of PCR amplification, following the manufacturer's protocol. The resulting cDNA fragments were subcloned into the vector pT7 Blue T-vector (Novagen, Madison, WI) and transformed into XL-1 Blue MRF' *E. coli* (Stratagene). DNA was isolated from independent clones and sequenced using a Perkin Elmer/Applied Biosystems Division Automated Sequencer Model 373A.

Fifty-nine positive clones were sequenced. Comparison of the DNA sequences of these clones with those in the gene bank, as described above, revealed no significant homologies to 25 of these clones, hereinafter referred to as P5, P8, P9, P18, P20, P30, P34, P36, P38, P39, P42, P49, P50, P53, P55, P60, P64, P65, P73, P75, P76, P79 and P84. The determined cDNA sequences for these clones are provided in SEQ ID NO: 41-45, 47-52 and 54-65, respectively. P29, P47, P68, P80 and P82 (SEQ ID NO: 46, 53 and 66-68, respectively) were found to show some degree of homology to previously identified DNA sequences. To the best of the inventors' knowledge, none of these sequences have been previously shown to be present in prostate.

Further studies using the PCR-based methodology described above resulted in the isolation of more than 180 additional clones, of which 23 clones were found to show no significant homologies to known sequences. The determined cDNA sequences for these clones are provided in SEQ ID NO: 115-123, 127, 131, 137, 145, 147-151, 153, 156-158 and 160. Twenty-three clones (SEQ ID NO: 124-126, 128-130, 132-136, 138-144, 146, 152, 154, 155 and 159) were found to show some homology to previously identified ESTs. An additional ten clones (SEQ ID NO: 161-170) were found to have some degree of homology to known genes. Larger cDNA clones containing the P20 sequence represent splice variants of a gene referred to as P703P. The determined DNA sequence for the variants referred to as DE1, DE13 and DE14 are provided in SEQ ID NOS: 171, 175 and 177, respectively, with the corresponding predicted amino acid sequences being provided in SEQ ID NO: 172, 176 and 178, respectively. The determined cDNA sequence for an extended spliced form of P703 is provided in SEQ ID NO: 225. The DNA sequences for the splice variants referred to as DE2 and DE6 are provided in SEQ ID NOS: 173 and 174, respectively.

mRNA Expression levels for representative clones in tumor tissues (prostate (n=5), breast (n=2), colon and lung) normal tissues (prostate (n=5), colon, kidney, liver, lung (n=2), ovary (n=2), skeletal muscle, skin, stomach, small intestine and brain), and activated

and non-activated PBMC was determined by RT-PCR as described above. Expression was examined in one sample of each tissue type unless otherwise indicated.

P9 was found to be highly expressed in normal prostate and prostate tumor compared to all normal tissues tested except for normal colon which showed comparable expression. P20, a portion of the P703P gene, was found to be highly expressed in normal prostate and prostate tumor, compared to all twelve normal tissues tested. A modest increase in expression of P20 in breast tumor (n=2), colon tumor and lung tumor was seen compared to all normal tissues except lung (1 of 2). Increased expression of P18 was found in normal prostate, prostate tumor and breast tumor compared to other normal tissues except lung and stomach. A modest increase in expression of P5 was observed in normal prostate compared to most other normal tissues. However, some elevated expression was seen in normal lung and PBMC. Elevated expression of P5 was also observed in prostate tumors (2 of 5), breast tumor and one lung tumor sample. For P30, similar expression levels were seen in normal prostate and prostate tumor, compared to six of twelve other normal tissues tested. Increased expression was seen in breast tumors, one lung tumor sample and one colon tumor sample, and also in normal PBMC. P29 was found to be over-expressed in prostate tumor (5 of 5) and normal prostate (5 of 5) compared to the majority of normal tissues. However, substantial expression of P29 was observed in normal colon and normal lung (2 of 2). P80 was found to be over-expressed in prostate tumor (5 of 5) and normal prostate (5 of 5) compared to all other normal tissues tested, with increased expression also being seen in colon tumor.

Further studies resulted in the isolation of twelve additional clones, hereinafter referred to as 10-d8, 10-h10, 11-c8, 7-g6, 8-b5, 8-b6, 8-d4, 8-d9, 8-g3, 8-h11, 9-f12 and 9-f3. The determined DNA sequences for 10-d8, 10-h10, 11-c8, 8-d4, 8-d9, 8-h11, 9-f12 and 9-f3 are provided in SEQ ID NO: 207, 208, 209, 216, 217, 220, 221 and 222, respectively. The determined forward and reverse DNA sequences for 7-g6, 8-b5, 8-b6 and 8-g3 are provided in SEQ ID NO: 210 and 211; 212 and 213; 214 and 215; and 218 and 219, respectively. Comparison of these sequences with those in the gene bank revealed no significant homologies to the sequence of 9-f3. The clones 10-d8, 11-c8 and 8-h11 were found to show some homology to previously isolated ESTs, while 10-h10, 8-b5, 8-b6, 8-d4, 8-d9, 8-g3 and 9-f12 were found to show some homology to previously identified genes. Further characterization of 7-G6 and 8-G3 showed identity to the known genes PAP and PSA, respectively.

mRNA expression levels for these clones were determined using the micro-array technology described above. The clones 7-G6, 8-G3, 8-B5, 8-B6, 8-D4, 8-D9, 9-F3, 9-F12, 9-H3, 10-A2, 10-A4, 11-C9 and 11-F2 were found to be over-expressed in prostate tumor and normal prostate, with expression in other tissues tested being low or undetectable.

Increased expression of 8-F11 was seen in prostate tumor and normal prostate, bladder, skeletal muscle and colon. Increased expression of 10-H10 was seen in prostate tumor and normal prostate, bladder, lung, colon, brain and large intestine. Increased expression of 9-B1 was seen in prostate tumor, breast tumor, and normal prostate, salivary gland, large intestine and skin, with increased expression of 11-C8 being seen in prostate tumor, and normal prostate and large intestine.

An additional cDNA fragment derived from the PCR-based normal prostate subtraction, described above, was found to be prostate specific by both micro-array technology and RT-PCR. The determined cDNA sequence of this clone (referred to as 9-A11) is provided in SEQ ID NO: 226. Comparison of this sequence with those in the public databases revealed 99% identity to the known gene HOXB13.

Further studies led to the isolation of the clones 8-C6 and 8-H7. The determined cDNA sequences for these clones are provided in SEQ ID NO: 227 and 228, respectively. These sequences were found to show some homology to previously isolated ESTs.

PCR and hybridization-based methodologies were employed to obtain longer cDNA sequences for clone P20 (also referred to as P703P), yielding three additional cDNA fragments that progressively extend the 5' end of the gene. These fragments, referred to as P703PDE5, P703P6.26, and P703PX-23 (SEQ ID NO: 326, 328 and 330, with the predicted corresponding amino acid sequences being provided in SEQ ID NO: 327, 329 and 331, respectively) contain additional 5' sequence. P703PDE5 was recovered by screening of a cDNA library (#141-26) with a portion of P703P as a probe. P703P6.26 was recovered from a mixture of three prostate tumor cDNAs and P703PX_23 was recovered from cDNA library (#438-48). Together, the additional sequences include all of the putative mature serine protease along with part of the putative signal sequence. Further studies using a PCR-based subtraction library of a prostate tumor pool subtracted against a pool of normal tissues (referred to as JP: PCR subtraction) resulted in the isolation of thirteen additional clones, seven of which did not share any significant homology to known GenBank sequences. The determined cDNA sequences for these seven clones (P711P, P712P, novel 23, P774P, P775P, P710P and P768P) are provided in SEQ ID NO: 307-311, 313 and 315, respectively. The remaining six clones (SEQ ID NO: 316 and 321-325) were shown to share some homology to known genes. By microarray analysis, all thirteen clones showed three or more fold over-expression in prostate tissues, including prostate tumors, BPH and normal prostate as compared to normal non-prostate tissues. Clones P711P, P712P, novel 23 and P768P showed over-expression in most prostate tumors and BPH tissues tested (n=29), and in the majority of normal prostate tissues (n=4), but background to low expression levels in all normal tissues.

Clones P774P, P775P and P710P showed comparatively lower expression and expression in fewer prostate tumors and BPH samples, with negative to low expression in normal prostate.

The full-length cDNA for P711P was obtained by employing the partial sequence of SEQ ID NO: 307 to screen a prostate cDNA library. Specifically, a directionally cloned prostate cDNA library was prepared using standard techniques. One million colonies of this library were plated onto LB/Amp plates. Nylon membrane filters were used to lift these colonies, and the cDNAs which were picked up by these filters were denatured and cross-linked to the filters by UV light. The P711P cDNA fragment of SEQ ID NO: 307 was radio-labeled and used to hybridize with these filters. Positive clones were selected, and cDNAs were prepared and sequenced using an automatic Perkin Elmer/Applied Biosystems sequencer. The determined full-length sequence of P711P is provided in SEQ ID NO: 382, with the corresponding predicted amino acid sequence being provided in SEQ ID NO: 383.

Using PCR and hybridization-based methodologies, additional cDNA sequence information was derived for two clones described above, 11-C9 and 9-F3, herein after referred to as P707P and P714P, respectively (SEQ ID NO: 333 and 334). After comparison with the most recent GenBank, P707P was found to be a splice variant of the known gene HoxB13. In contrast, no significant homologies to P714P were found.

Clones 8-B3, P89, P98, P130 and P201 (as disclosed in U.S. Patent Application No. 09/020,956, filed February 9, 1998) were found to be contained within one contiguous sequence, referred to as P705P (SEQ ID NO: 335, with the predicted amino acid sequence provided in SEQ ID NO: 336), which was determined to be a splice variant of the known gene NKX 3.1.

EXAMPLE 4 SYNTHESIS OF POLYPEPTIDES

Polypeptides may be synthesized on a Perkin Elmer/Applied Biosystems 430A peptide synthesizer using Fmoc chemistry with HPTU (O-Benzotriazole-N,N,N',N'-tetramethyluronium hexafluorophosphate) activation. A Gly-Cys-Gly sequence may be attached to the amino terminus of the peptide to provide a method of conjugation, binding to an immobilized surface, or labeling of the peptide. Cleavage of the peptides from the solid support may be carried out using the following cleavage mixture: trifluoroacetic acid:ethanedithiol:thioanisole:water:phenol (40:1:2:2:3). After cleaving for 2 hours, the peptides may be precipitated in cold methyl-t-butyl-ether. The peptide pellets may then be dissolved in water containing 0.1% trifluoroacetic acid (TFA) and lyophilized prior to purification by C18 reverse phase HPLC. A gradient of 0%-60% acetonitrile (containing 0.1% TFA) in water (containing 0.1% TFA) may be used to elute the peptides. Following

lyophilization of the pure fractions, the peptides may be characterized using electrospray or other types of mass spectrometry and by amino acid analysis.

EXAMPLE 5

FURTHER ISOLATION AND CHARACTERIZATION OF PROSTATE TUMOR POLYPEPTIDES BY PCR-BASED SUBTRACTION

A cDNA library generated from prostate primary tumor mRNA as described above was subtracted with cDNA from normal prostate. The subtraction was performed using a PCR-based protocol (Clontech), which was modified to generate larger fragments. Within this protocol, tester and driver double stranded cDNA were separately digested with five restriction enzymes that recognize six-nucleotide restriction sites (MluI, MscI, PvuII, SalI and StuI). This digestion resulted in an average cDNA size of 600 bp, rather than the average size of 300 bp that results from digestion with RsaI according to the Clontech protocol. This modification did not affect the subtraction efficiency. Two tester populations were then created with different adapters, and the driver library remained without adapters.

The tester and driver libraries were then hybridized using excess driver cDNA. In the first hybridization step, driver was separately hybridized with each of the two tester cDNA populations. This resulted in populations of (a) unhybridized tester cDNAs, (b) tester cDNAs hybridized to other tester cDNAs, (c) tester cDNAs hybridized to driver cDNAs and (d) unhybridized driver cDNAs. The two separate hybridization reactions were then combined, and rehybridized in the presence of additional denatured driver cDNA. Following this second hybridization, in addition to populations (a) through (d), a fifth population (e) was generated in which tester cDNA with one adapter hybridized to tester cDNA with the second adapter. Accordingly, the second hybridization step resulted in enrichment of differentially expressed sequences which could be used as templates for PCR amplification with adaptor-specific primers.

The ends were then filled in, and PCR amplification was performed using adaptor-specific primers. Only population (e), which contained tester cDNA that did not hybridize to driver cDNA, was amplified exponentially. A second PCR amplification step was then performed, to reduce background and further enrich differentially expressed sequences.

This PCR-based subtraction technique normalizes differentially expressed cDNAs so that rare transcripts that are overexpressed in prostate tumor tissue may be recoverable. Such transcripts would be difficult to recover by traditional subtraction methods.

In addition to genes known to be overexpressed in prostate tumor, seventy-seven further clones were identified. Sequences of these partial cDNAs are provided in SEQ ID NO: 29 to 305. Most of these clones had no significant homology to database sequences. Exceptions were JPTPN23 (SEQ ID NO: 231; similarity to pig valosin-containing protein), JPTPN30 (SEQ ID NO: 234; similarity to rat mRNA for proteasome subunit), JPTPN45 (SEQ ID NO: 243; similarity to rat *norvegicus* cytosolic NADP-dependent isocitrate dehydrogenase), JPTPN46 (SEQ ID NO: 244; similarity to human subclone H8 4 d4 DNA sequence), JP1D6 (SEQ ID NO: 265; similarity to *G. gallus* dynein light chain-A), JP8D6 (SEQ ID NO: 288; similarity to human BAC clone RG016J04), JP8F5 (SEQ ID NO: 289; similarity to human subclone H8 3 b5 DNA sequence), and JP8E9 (SEQ ID NO: 299; similarity to human Alu sequence).

Additional studies using the PCR-based subtraction library consisting of a prostate tumor pool subtracted against a normal prostate pool (referred to as PT-PN PCR subtraction) yielded three additional clones. Comparison of the cDNA sequences of these clones with the most recent release of GenBank revealed no significant homologies to the two clones referred to as P715P and P767P (SEQ ID NO: 312 and 314). The remaining clone was found to show some homology to the known gene KIAA0056 (SEQ ID NO: 318). Using microarray analysis to measure mRNA expression levels in various tissues, all three clones were found to be over-expressed in prostate tumors and BPH tissues. Specifically, clone P715P was over-expressed in most prostate tumors and BPH tissues by a factor of three or greater, with elevated expression seen in the majority of normal prostate samples and in fetal tissue, but negative to low expression in all other normal tissues. Clone P767P was over-expressed in several prostate tumors and BPH tissues, with moderate expression levels in half of the normal prostate samples, and background to low expression in all other normal tissues tested.

Further analysis, by microarray as described above, of the PT-PN PCR subtraction library and of a DNA subtraction library containing cDNA from prostate tumor subtracted with a pool of normal tissue cDNAs, led to the isolation of 27 additional clones (SEQ ID NO: 340-365 and 381) which were determined to be over-expressed in prostate tumor. The clones of SEQ ID NO: 341, 342, 345, 347, 348, 349, 351, 355-359, 361, 362 and 364 were also found to be expressed in normal prostate. Expression of all 26 clones in a variety of normal tissues was found to be low or undetectable, with the exception of P544S (SEQ ID NO: 356) which was found to be expressed in small intestine. Of the 26 clones, 10 (SEQ ID NO: 340-349) were found to show some homology to previously identified sequences. No significant homologies were found to the clones of SEQ ID NO: 350-365.

EXAMPLE 6

PEPTIDE PRIMING OF MICE AND PROPAGATION OF CTL LINES

6.1. This Example illustrates the preparation of a CTL cell line specific for cells expressing the P502S gene.

Mice expressing the transgene for human HLA A2.1 (provided by Dr L. Sherman, The Scripps Research Institute, La Jolla, CA) were immunized with P2S#12 peptide (VLGWVAEL; SEQ ID NO: 306), which is derived from the P502S gene (also referred to herein as J1-17, SEQ ID NO: 8), as described by Theobald et al., *Proc. Natl. Acad. Sci. USA* 92:11993-11997, 1995 with the following modifications. Mice were immunized with 100µg of P2S#12 and 120µg of an I-A^b binding peptide derived from hepatitis B Virus protein emulsified in incomplete Freund's adjuvant. Three weeks later these mice were sacrificed and using a nylon mesh single cell suspensions prepared. Cells were then resuspended at 6×10^6 cells/ml in complete media (RPMI-1640; Gibco BRL, Gaithersburg, MD) containing 10% FCS, 2mM Glutamine (Gibco BRL), sodium pyruvate (Gibco BRL), non-essential amino acids (Gibco BRL), 2×10^{-5} M 2-mercaptoethanol, 50U/ml penicillin and streptomycin, and cultured in the presence of irradiated (3000 rads) P2S#12-pulsed (5mg/ml P2S#12 and 10mg/ml β 2-microglobulin) LPS blasts (A2 transgenic spleens cells cultured in the presence of 7µg/ml dextran sulfate and 25µg/ml LPS for 3 days). Six days later, cells (5×10^5 /ml) were restimulated with 2.5×10^6 /ml peptide pulsed irradiated (20,000 rads) EL4A2Kb cells (Sherman et al, *Science* 258:815-818, 1992) and 3×10^6 /ml A2 transgenic spleen feeder cells. Cells were cultured in the presence of 20U/ml IL-2. Cells continued to be restimulated on a weekly basis as described, in preparation for cloning the line.

P2S#12 line was cloned by limiting dilution analysis with peptide pulsed EL4 A2Kb tumor cells (1×10^4 cells/ well) as stimulators and A2 transgenic spleen cells as feeders (5×10^5 cells/ well) grown in the presence of 30U/ml IL-2. On day 14, cells were

restimulated as before. On day 21, clones that were growing were isolated and maintained in culture. Several of these clones demonstrated significantly higher reactivity (lysis) against human fibroblasts (HLA A2.1 expressing) transduced with P502S than against control fibroblasts. An example is presented in Figure 1.

This data indicates that P2S #12 represents a naturally processed epitope of the P502S protein that is expressed in the context of the human HLA A2.1 molecule.

6.2. This Example illustrates the preparation of murine CTL lines and CTL clones specific for cells expressing the P501S gene.

This series of experiments were performed similarly to that described above. Mice were immunized with the P1S#10 peptide (SEQ ID NO: 337), which is derived from the P501S gene (also referred to herein as L1-12, SEQ ID NO: 110). The P1S#10 peptide was derived by analysis of the predicted polypeptide sequence for P501S for potential HLA-A2 binding sequences as defined by published HLA-A2 binding motifs (Parker, KC, *et al*, *J. Immunol.*, 152:163, 1994). P1S#10 peptide was synthesized as described in Example 4, and empirically tested for HLA-A2 binding using a T cell based competition assay. Predicted A2 binding peptides were tested for their ability to compete HLA-A2 specific peptide presentation to an HLA-A2 restricted CTL clone (D150M58), which is specific for the HLA-A2 binding influenza matrix peptide fluM58. D150M58 CTL secretes TNF in response to self-presentation of peptide fluM58. In the competition assay, test peptides at 100-200 $\mu\text{g/ml}$ were added to cultures of D150M58 CTL in order to bind HLA-A2 on the CTL. After thirty minutes, CTL cultured with test peptides, or control peptides, were tested for their antigen dose response to the fluM58 peptide in a standard TNF bioassay. As shown in Figure 3, peptide P1S#10 competes HLA-A2 restricted presentation of fluM58, demonstrating that peptide P1S#10 binds HLA-A2.

Mice expressing the transgene for human HLA A2.1 were immunized as described by Theobald *et al.* (*Proc. Natl. Acad. Sci. USA* 92:11993-11997, 1995) with the following modifications. Mice were immunized with 62.5 μg of P1S #10 and 120 μg of an I-A^b binding peptide derived from Hepatitis B Virus protein emulsified in incomplete Freund's adjuvant. Three weeks later these mice were sacrificed and single cell suspensions prepared using a nylon mesh. Cells were then resuspended at 6×10^6 cells/ml in complete media (as described above) and cultured in the presence of irradiated (3000 rads) P1S#10-pulsed (2 $\mu\text{g/ml}$ P1S#10 and 10mg/ml β 2-microglobulin) LPS blasts (A2 transgenic spleens cells cultured in the presence of 7 $\mu\text{g/ml}$ dextran sulfate and 25 $\mu\text{g/ml}$ LPS for 3 days). Six days later cells ($5 \times 10^5/\text{ml}$) were restimulated with $2.5 \times 10^6/\text{ml}$ peptide-pulsed irradiated (20,000 rads) EL4A2Kb cells, as described above, and $3 \times 10^6/\text{ml}$ A2 transgenic spleen feeder cells. Cells were cultured in the presence of 20 U/ml IL-2. Cells were restimulated on a weekly

basis in preparation for cloning. After three rounds of *in vitro* stimulations, one line was generated that recognized P1S#10-pulsed Jurkat A2Kb targets and P501S-transduced Jurkat targets as shown in Figure 4.

A P1S#10-specific CTL line was cloned by limiting dilution analysis with peptide pulsed EL4 A2Kb tumor cells (1×10^4 cells/ well) as stimulators and A2 transgenic spleen cells as feeders (5×10^5 cells/ well) grown in the presence of 30U/ml IL-2. On day 14, cells were restimulated as before. On day 21, viable clones were isolated and maintained in culture. As shown in Figure 5, five of these clones demonstrated specific cytolytic reactivity against P501S-transduced Jurkat A2Kb targets. This data indicates that P1S#10 represents a naturally processed epitope of the P501S protein that is expressed in the context of the human HLA-A2.1 molecule.

EXAMPLE 7

ABILITY OF HUMAN T CELLS TO RECOGNIZE PROSTATE TUMOR POLYPEPTIDES

This Example illustrates the ability of T cells specific for a prostate tumor polypeptide to recognize human tumor.

Human CD8⁺ T cells were primed *in vitro* to the P2S-12 peptide (SEQ ID NO: 306) derived from P502S (also referred to as J1-17) using dendritic cells according to the protocol of Van Tsai et al. (*Critical Reviews in Immunology* 18:65-75, 1998). The resulting CD8⁺ T cell microcultures were tested for their ability to recognize the P2S-12 peptide presented by autologous fibroblasts or fibroblasts which were transduced to express the P502S gene in a γ -interferon ELISPOT assay (see Lalvani et al., *J. Exp. Med.* 186:859-865, 1997). Briefly, titrating numbers of T cells were assayed in duplicate on 10^4 fibroblasts in the presence of 3 μ g/ml human β_2 -microglobulin and 1 μ g/ml P2S-12 peptide or control E75 peptide. In addition, T cells were simultaneously assayed on autologous fibroblasts transduced with the P502S gene or as a control, fibroblasts transduced with HER-2/*neu*. Prior to the assay, the fibroblasts were treated with 10 ng/ml γ -interferon for 48 hours to upregulate class I MHC expression. One of the microcultures (#5) demonstrated strong recognition of both peptide pulsed fibroblasts as well as transduced fibroblasts in a γ -interferon ELISPOT assay. Figure 2A demonstrates that there was a strong increase in the number of γ -interferon spots with increasing numbers of T cells on fibroblasts pulsed with the P2S-12 peptide (solid bars) but not with the control E75 peptide (open bars). This shows the ability of these T cells to specifically recognize the P2S-12 peptide. As shown in Figure 2B, this microculture also demonstrated an increase in the number of γ -interferon spots with increasing numbers of T

cells on fibroblasts transduced to express the P502S gene but not the HER-2/*neu* gene. These results provide additional confirmatory evidence that the P2S-12 peptide is a naturally processed epitope of the P502S protein. Furthermore, this also demonstrates that there exists in the human T cell repertoire, high affinity T cells which are capable of recognizing this epitope. These T cells should also be capable of recognizing human tumors which express the P502S gene.

EXAMPLE 8

PRIMING OF CTL *IN VIVO* USING NAKED DNA IMMUNIZATION WITH A PROSTATE ANTIGEN

The prostate tumor antigen L1-12, as described above, is also referred to as P501S. HLA A2Kb Tg mice (provided by Dr L. Sherman, The Scripps Research Institute, La Jolla, CA) were immunized with 100 µg VR10132-P501S either intramuscularly or intradermally. The mice were immunized three times, with a two week interval between immunizations. Two weeks after the last immunization, immune spleen cells were cultured with Jurkat A2Kb-P501S transduced stimulator cells. CTL lines were stimulated weekly. After two weeks of *in vitro* stimulation, CTL activity was assessed against P501S transduced targets. Two out of 8 mice developed strong anti-P501S CTL responses. These results demonstrate that P501S contains at least one naturally processed A2-restricted CTL epitope.

EXAMPLE 9

GENERATION OF HUMAN CTL *IN VITRO* USING WHOLE GENE PRIMING AND STIMULATION TECHNIQUES WITH PROSTATE TUMOR ANTIGEN

Using *in vitro* whole-gene priming with P501S-retrovirally transduced autologous fibroblasts (see, for example, Yee et al, *The Journal of Immunology*, 157(9):4079-86, 1996), human CTL lines were derived that specifically recognize autologous fibroblasts transduced with P501S (also known as L1-12), as determined by interferon-γ ELISPOT analysis as described above. Using a panel of HLA-mismatched fibroblast lines transduced with P501S, these CTL lines were shown to be restricted HLA-A2 class I allele. Specifically, dendritic cells (DC) were differentiated from monocyte cultures derived from PBMC of normal human donors by growing for five days in RPMI medium containing 10% human serum, 50 ng/ml human GM-CSF and 30 ng/ml human IL-4. Following culture, DC were infected overnight with recombinant P501S vaccinia virus at a multiplicity of infection (M.O.I) of five, and matured overnight by the addition of 3 µg/ml CD40 ligand. Virus was inactivated by UV irradiation. CD8+ T cells were isolated using a magnetic bead system, and

priming cultures were initiated using standard culture techniques. Cultures were restimulated every 7-10 days using autologous primary fibroblasts retrovirally transduced with P501S. Following four stimulation cycles, CD8+ T cell lines were identified that specifically produced interferon- γ when stimulated with P501S-transduced autologous fibroblasts. The P501S-specific activity could be sustained by the continued stimulation of the cultures with P501S-transduced fibroblasts in the presence of IL-15. A panel of HLA-mismatched fibroblast lines transduced with P501S were generated to define the restriction allele of the response. By measuring interferon- γ in an ELISPOT assay, the P501S specific response was shown to be restricted by HLA-A2. These results demonstrate that a CD8+ CTL response to P501S can be elicited.

EXAMPLE 10

IDENTIFICATION OF A NATURALLY PROCESSED CTL EPITOPE CONTAINED WITHIN A PROSTATE TUMOR ANTIGEN

The 9-mer peptide p5 (SEQ ID NO: 338) was derived from the P703P antigen (also referred to as P20). The p5 peptide is immunogenic in human HLA-A2 donors and is a naturally processed epitope. Antigen specific CD8+ T cells can be primed following repeated *in vitro* stimulations with monocytes pulsed with p5 peptide. These CTL specifically recognize p5-pulsed target cells in both ELISPOT (as described above) and chromium release assays. Additionally, immunization of HLA-A2 transgenic mice with p5 leads to the generation of CTL lines which recognize a variety of P703P transduced target cells expressing either HLA-A2Kb or HLA-A2. Specifically, HLA-A2 transgenic mice were immunized subcutaneously in the footpad with 100 μ g of p5 peptide together with 140 μ g of hepatitis B virus core peptide (a Th peptide) in Freund's incomplete adjuvant. Three weeks post immunization, spleen cells from immunized mice were stimulated *in vitro* with peptide-pulsed LPS blasts. CTL activity was assessed by chromium release assay five days after primary *in vitro* stimulation. Retrovirally transduced cells expressing the control antigen P703P and HLA-A2Kb were used as targets. CTL lines that specifically recognized both p5-pulsed targets as well as P703P-expressing targets were identified.

Human *in vitro* priming experiments demonstrated that the p5 peptide is immunogenic in humans. Dendritic cells (DC) were differentiated from monocyte cultures derived from PBMC of normal human donors by culturing for five days in RPMI medium containing 10% human serum, 50 ng/ml human GM-CSF and 30 ng/ml human IL-4. Following culture, the DC were pulsed with p5 peptide and cultured with GM-CSF and IL-4 together with CD8+ T cell enriched PBMC. CTL lines were restimulated on a weekly basis

with p5-pulsed monocytes. Five to six weeks after initiation of the CTL cultures, CTL recognition of p5-pulsed target cells was demonstrated.

EXAMPLE 11

EXPRESSION OF A BREAST TUMOR-DERIVED ANTIGEN IN PROSTATE

Isolation of the antigen B305D from breast tumor by differential display is described in US Patent Application No. 08/700,014, filed August 20, 1996. Several different splice forms of this antigen were isolated. The determined cDNA sequences for these splice forms are provided in SEQ ID NO: 366-375, with the predicted amino acid sequences corresponding to the sequences of SEQ ID NO: 292, 298 and 301-303 being provided in SEQ ID NO: 299-306, respectively.

The expression levels of B305D in a variety of tumor and normal tissues were examined by real time PCR and by Northern analysis. The results indicated that B305D is highly expressed in breast tumor, prostate tumor, normal prostate tumor and normal testes, with expression being low or undetectable in all other tissues examined (colon tumor, lung tumor, ovary tumor, and normal bone marrow, colon, kidney, liver, lung, ovary, skin, small intestine, stomach).

EXAMPLE 12

ELICITATION OF PROSTATE TUMOR ANTIGEN-SPECIFIC CTL RESPONSES IN HUMAN BLOOD

This Example illustrates the ability of a prostate tumor antigen to elicit a CTL response in blood of normal humans.

Autologous dendritic cells (DC) were differentiated from monocyte cultures derived from PBMC of normal donors by growth for five days in RPMI medium containing 10% human serum, 50 ng/ml GM-CSF and 30 ng/ml IL-4. Following culture, DC were infected overnight with recombinant P501S-expressing vaccinia virus at an M.O.I. of 5 and matured for 8 hours by the addition of 2 micrograms/ml CD40 ligand. Virus was inactivated by UV irradiation, CD8⁺ cells were isolated by positive selection using magnetic beads, and priming cultures were initiated in 24-well plates. Following five stimulation cycles, CD8⁺ lines were identified that specifically produced interferon-gamma when stimulated with autologous P501S-transduced fibroblasts. The P501S-specific activity of cell line 3A-1 could be maintained following additional stimulation cycles on autologous B-LCL transduced with P501S. Line 3A-1 was shown to specifically recognize autologous B-LCL transduced to

express P501S, but not EGFP-transduced autologous B-LCL, as measured by cytotoxicity assays (^{51}Cr release) and interferon-gamma production (Interferon-gamma Elispot; *see above* and Lalvani et al., *J. Exp. Med.* 186:859-865, 1997). The results of these assays are presented in Figures 6A and 6B.

EXAMPLE 13

IDENTIFICATION OF PROSTATE TUMOR ANTIGENS BY MICROARRAY ANALYSIS

This Example describes the isolation of certain prostate tumor polypeptides from a prostate tumor cDNA library.

A human prostate tumor cDNA expression library as described above was screened using microarray analysis to identify clones that display at least a three fold over-expression in prostate tumor and/or normal prostate tissue, as compared to non-prostate normal tissues (not including testis). 372 clones were identified, and 319 were successfully sequenced. Table I presents a summary of these clones, which are shown in SEQ ID NOs:385-400. Of these sequences SEQ ID NOs:386, 389, 390 and 392 correspond to novel genes, and SEQ ID NOs: 393 and 396 correspond to previously identified sequences. The others (SEQ ID NOs:385, 387, 388, 391, 394, 395 and 397-400) correspond to known sequences, as shown in Table I.

Table I
Summary of Prostate Tumor Antigens

Known Genes	Previously identified Genes	Novel Genes
T-cell gamma chain	P504S	23379 (SEQ ID NO:389)
Kallikrein	P1000C	23399 (SEQ ID NO:392)
Vector	P501S	23320 (SEQ ID NO:386)
CGI-82 protein mRNA (23319; SEQ ID NO:385)	P503S	23381 (SEQ ID NO:390)
PSA	P510S	
Ald. 6 Dehyd.	P784P	
L-iditol-2 dehydrogenase (23376; SEQ ID NO:388)	P502S	
Ets transcription factor PDEF (22672; SEQ ID NO:398)	P706P	
hTGR (22678; SEQ ID NO:399)	19142.2, bangur.seq (22621; SEQ ID NO:396)	
KIAA0295(22685; SEQ ID NO:400)	5566.1 Wang(23404; SEQ ID NO:393)	
Prostatic Acid Phosphatase(22655; SEQ ID NO:397)	P712P	

SUBSTITUTE SHEET (RULE 26)

transglutaminase (22611; SEQ ID NO:395)	P778P	
HDLBP (23508; SEQ ID NO:394)		
CGI-69 Protein(23367; SEQ ID NO:387)		
KIAA0122(23383; SEQ ID NO:391)		
TEEG		

CGI-82 showed 4.06 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 43% of prostate tumors, 25% normal prostate, not detected in other normal tissues tested. L-iditol-2 dehydrogenase showed 4.94 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 90% of prostate tumors, 100% of normal prostate, and not detected in other normal tissues tested. Ets transcription factor PDEF showed 5.55 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 47% prostate tumors, 25% normal prostate and not detected in other normal tissues tested. hTGR1 showed 9.11 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 63% of prostate tumors and is not detected in normal tissues tested including normal prostate. KIAA0295 showed 5.59 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 47% of prostate tumors, low to undetectable in normal tissues tested including normal prostate tissues. Prostatic acid phosphatase showed 9.14 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 67% of prostate tumors, 50% of normal prostate, and not detected in other normal tissues tested. Transglutaminase showed 14.84 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 30% of prostate tumors, 50% of normal prostate, and is not detected in other normal tissues tested. High density lipoprotein binding protein (HDLBP) showed 28.06 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 97% of prostate tumors, 75% of normal prostate, and is undetectable in all other normal tissues tested. CGI-69 showed 3.56 fold over-expression in prostate tissues as compared to other normal tissues tested. It is a low abundant gene, detected in more than 90% of prostate tumors, and in 75% normal prostate tissues. The expression of this gene in normal tissues was very low. KIAA0122 showed 4.24 fold over-expression in prostate

tissues as compared to other normal tissues tested. It was over-expressed in 57% of prostate tumors, it was undetectable in all normal tissues tested including normal prostate tissues. 19142.2 bangur showed 23.25 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 97% of prostate tumors and 100% of normal prostate. It was undetectable in other normal tissues tested. 5566.1 Wang showed 3.31 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 97% of prostate tumors, 75% normal prostate and was also over-expressed in normal bone marrow, pancreas, and activated PBMC. Novel clone 23379 showed 4.86 fold over-expression in prostate tissues as compared to other normal tissues tested. It was detectable in 97% of prostate tumors and 75% normal prostate and is undetectable in all other normal tissues tested. Novel clone 23399 showed 4.09 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 27% of prostate tumors and was undetectable in all normal tissues tested including normal prostate tissues. Novel clone 23320 showed 3.15 fold over-expression in prostate tissues as compared to other normal tissues tested. It was detectable in all prostate tumors and 50% of normal prostate tissues. It was also expressed in normal colon and trachea. Other normal tissues do not express this gene at high level.

EXAMPLE 14

IDENTIFICATION OF PROSTATE TUMOR ANTIGENS BY ELECTRONIC SUBTRACTION

This Example describes the use of an electronic subtraction technique to identify prostate tumor antigens.

Potential prostate-specific genes present in the GenBank human EST database were identified by electronic subtraction (similar to that described by Vasmatizis et al., *Proc. Natl. Acad. Sci. USA* 95:300-304, 1998). The sequences of EST clones (43,482) derived from various prostate libraries were obtained from the GenBank public human EST database. Each prostate EST sequence was used as a query sequence in a BLASTN (National Center for Biotechnology Information) search against the human EST database. All matches considered identical (length of matching sequence >100 base pairs, density of identical matches over this region > 70%) were grouped (aligned) together in a cluster. Clusters containing more than 200 ESTs were discarded since they probably represented repetitive elements or highly expressed genes such as those for ribosomal proteins. If two or more clusters shared common ESTs, those clusters were grouped together into a "supercluster," resulting in 4,345 prostate superclusters.

Records for the 479 human cDNA libraries represented in the GenBank release were downloaded to create a database of these cDNA library records. These 479 cDNA libraries were grouped into three groups, Plus (normal prostate and prostate tumor libraries, and breast cell lines, in which expression was desired), Minus (libraries from other normal adult tissues, in which expression was not desirable), and Other (fetal tissue, infant tissue, tissues found only in women, non-prostate tumors and cell lines other than prostate cell lines, in which expression was considered to be irrelevant). A summary of these library groups is presented in Table II.

Table II
Prostate cDNA Libraries and ESTs

Library	# of Libraries	# of ESTs
Plus	25	43,482
Normal	11	18,875
Tumor	11	21,769
Cell lines	3	2,838
Minus	166	
Other	287	

Each supercluster was analyzed in terms of the ESTs within the supercluster. The tissue source of each EST clone was noted and used to classify the superclusters into four groups: Type 1- EST clones found in the Plus group libraries only; no expression detected in Minus or Other group libraries; Type 2- EST clones found in the Plus and Other group libraries only; no expression detected in the Minus group; Type 3- EST clones found in the Plus, Minus and Other group libraries, but the expression in the Plus group is higher than in either the Minus or Other groups; and Type 4- EST clones found in Plus, Minus and Other group libraries, but the expression in the Plus group is higher than the expression in the Minus group. This analysis identified 4,345 breast clusters (*see* Table III). From these clusters, 3,172 EST clones were ordered from Research Genetics, Inc., and were received as frozen glycerol stocks in 96-well plates.

Table III
Prostate Cluster Summary

Type	# of Superclusters	# of ESTs Ordered
1	688	677
2	2899	2484
3	85	11
4	673	0
Total	4345	3172

The inserts were PCR-amplified using amino-linked PCR primers for Synteni microarray analysis. When more than one PCR product was obtained for a particular clone, that PCR product was not used for expression analysis. In total, 2,528 clones from the electronic subtraction method were analyzed by microarray analysis to identify electronic subtraction breast clones that had high tumor vs. normal tissue mRNA. Such screens were performed using a Synteni (Palo Alto, CA) microarray, according to the manufacturer's instructions (and essentially as described by Schena et al., *Proc. Natl. Acad. Sci. USA* 93:10614-10619, 1996 and Heller et al., *Proc. Natl. Acad. Sci. USA* 94:2150-2155, 1997). Within these analyses, the clones were arrayed on the chip, which was then probed with fluorescent probes generated from normal and tumor prostate cDNA, as well as various other normal tissues. The slides were scanned and the fluorescence intensity was measured.

Clones with an expression ratio greater than 3 (*i.e.*, the level in prostate tumor cDNA was at least three times the level in normal prostate cDNA) were identified as prostate tumor-specific sequences (Table IV). The sequences of these clones are provided in SEQ ID NOs:401-453, with certain novel sequences shown in SEQ ID NOs:407, 413, 416-419, 422, 426, 427 and 450.

Table IV
Prostate-tumor Specific Clones

SEQ ID NO.	Sequence Designation	Comments
401	22545	previously identified P1000C
402	22547	previously identified P704P

403	22548	known
404	22550	known
405	22551	PSA
406	22552	prostate secretory protein 94
407	22553	novel
408	22558	previously identified P509S
409	22562	glandular kallikrein
410	22565	previously identified P1000C
411	22567	PAP
412	22568	B1006C (breast tumor antigen)
413	22570	novel
414	22571	PSA
415	22572	previously identified P706P
416	22573	novel
417	22574	novel
418	22575	novel
419	22580	novel
420	22581	PAP
421	22582	prostatic secretory protein 94
422	22583	novel
423	22584	prostatic secretory protein 94
424	22585	prostatic secretory protein 94
425	22586	known
426	22587	novel
427	22588	novel
428	22589	PAP
429	22590	known
430	22591	PSA
431	22592	known
432	22593	Previously identified P777P
433	22594	T cell receptor gamma chain
434	22595	Previously identified P705P
435	22596	Previously identified P707P
436	22847	PAP
437	22848	known
438	22849	prostatic secretory protein 57

SUBSTITUTE SHEET (RULE 26)

439	22851	PAP
440	22852	PAP
441	22853	PAP
442	22854	previously identified P509S
443	22855	previously identified P705P
444	22856	previously identified P774P
445	22857	PSA
446	23601	previously identified P777P
447	23602	PSA
448	23605	PSA
449	23606	PSA
450	23612	novel
451	23614	PSA
452	23618	previously identified P1000C
453	23622	previously identified P705P

EXAMPLE 15

FURTHER IDENTIFICATION OF PROSTATE TUMOR ANTIGENS BY MICROARRAY ANALYSIS

This Example describes the isolation of additional prostate tumor polypeptides from a prostate tumor cDNA library.

A human prostate tumor cDNA expression library as described above was screened using microarray analysis to identify clones that display at least a three fold over-expression in prostate tumor and/or normal prostate tissue, as compared to non-prostate normal tissues (not including testis). 142 clones were identified and sequenced. Certain of these clones are shown in SEQ ID NOs:454-467. Of these sequences SEQ ID NOs:459-461 correspond to novel genes. The others (SEQ ID NOs:454-458 and 461-467) correspond to known sequences.

EXAMPLE 16

FURTHER CHARACTERIZATION OF PROSTATE TUMOR ANTIGEN P710P

This Example describes the full length cloning of P710P.

The prostate cDNA library described above was screened with the P710P fragment described above. One million colonies were plated on LB/Ampicillin plates. Nylon membrane filters were used to lift these colonies, and the cDNAs picked up by these filters were then denatured and cross-linked to the filters by UV light. The P710P fragment was radiolabeled and used to hybridize with the filters. Positive cDNA clones were selected and their cDNAs recovered and sequenced by an automatic ABI Sequencer. Four sequences were obtained, and are presented in SEQ ID NOs:468-471.

From the foregoing, it will be appreciated that, although specific embodiments of the invention have been described herein for the purposes of illustration, various modifications may be made without deviating from the spirit and scope of the invention. Accordingly, the present invention is not limited except as by the appended claims.

CLAIMS

1. An isolated polypeptide comprising at least an immunogenic portion of a prostate tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:

(a) sequences recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472;

(b) sequences that hybridize to any of the foregoing sequences under moderately stringent conditions; and

(c) complements of any of the sequence of (a) or (b).

2. An isolated polypeptide according to claim 1, wherein the polypeptide comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472, or a complement of any of the foregoing polynucleotide sequences.

3. An isolated polypeptide comprising a sequence recited in any one of SEQ ID NO: 108, 112, 113, 114, 172, 176, 178, 327, 329, 331, 339 and 383.

4. An isolated polynucleotide encoding at least 15 amino acid residues of a prostate tumor protein, or a variant thereof that differs in one or more substitutions, deletions, additions and/or insertions such that the ability of the variant to react with antigen-specific antisera is not substantially diminished, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide comprising a sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434,

435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472, or a complement of any of the foregoing sequences.

5. An isolated polynucleotide encoding a prostate tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide comprising a sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472, or a complement of any of the foregoing sequences.

6. An isolated polynucleotide comprising a sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472.

7. An isolated polynucleotide comprising a sequence that hybridizes, under moderately stringent conditions, to a sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472.

8. An isolated polynucleotide complementary to a polynucleotide according to any one of claims 4-7.

9. An expression vector comprising a polynucleotide according to any one of claims 4-7.

10. A host cell transformed or transfected with an expression vector according to claim 9.

11. An expression vector comprising a polynucleotide according claim 8.

12. A host cell transformed or transfected with an expression vector according to claim 11.

13. A pharmaceutical composition comprising a polypeptide according to claim 1, in combination with a physiologically acceptable carrier.

14. A vaccine comprising a polypeptide according to claim 1, in combination with a non-specific immune response enhancer.

15. A vaccine according to claim 14, wherein the non-specific immune response enhancer is an adjuvant.

16. A vaccine according to claim 14, wherein the non-specific immune response enhancer induces a predominantly Type I response.

17. A pharmaceutical composition comprising a polynucleotide according to claim 4, in combination with a physiologically acceptable carrier.

18. A vaccine comprising a polynucleotide according to claim 4, in combination with a non-specific immune response enhancer.

19. A vaccine according to claim 18, wherein the non-specific immune response enhancer is an adjuvant.

20. A vaccine according to claim 18, wherein the non-specific immune response enhancer induces a predominantly Type I response.

21. An isolated antibody, or antigen-binding fragment thereof, that specifically binds to a prostate tumor protein that comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472 or a complement of any of the foregoing polynucleotide sequences.

22. A pharmaceutical composition comprising an antibody or fragment thereof according to claim 18, in combination with a physiologically acceptable carrier.

23. A pharmaceutical composition comprising an antigen-presenting cell that expresses a polypeptide according to claim 1, in combination with a pharmaceutically acceptable carrier or excipient.

24. A pharmaceutical composition according to claim 23, wherein the antigen presenting cell is a dendritic cell or a macrophage.

25. A vaccine comprising an antigen-presenting cell that expresses a polypeptide according to claim 1, in combination with a non-specific immune response enhancer.

26. A vaccine according to claim 25, wherein the non-specific immune response enhancer is an adjuvant.

27. A vaccine according to claim 25, wherein the non-specific immune response enhancer induces a predominantly Type I response.

28. A vaccine according to claim 25, wherein the antigen-presenting cell is a dendritic cell.

29. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a polypeptide according to claim 1, and thereby inhibiting the development of a cancer in the patient.

30. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a polynucleotide according to claim 4, and thereby inhibiting the development of a cancer in the patient.

31. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of an antibody or antigen-binding fragment thereof according to claim 21, and thereby inhibiting the development of a cancer in the patient.

32. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of an antigen-presenting cell that expresses a polypeptide according to claim 1, and thereby inhibiting the development of a cancer in the patient.
33. A method according to claim 32, wherein the antigen-presenting cell is a dendritic cell.
34. A method according to any one of claims 29-32, wherein the cancer is prostate cancer.
35. A fusion protein comprising at least one polypeptide according to claim 1.
36. A fusion protein according to claim 35, wherein the fusion protein comprises an expression enhancer that increases expression of the fusion protein in a host cell transfected with a polynucleotide encoding the fusion protein.
37. A fusion protein according to claim 35, wherein the fusion protein comprises a T helper epitope that is not present within the polypeptide of claim 1.
38. A fusion protein according to claim 35, wherein the fusion protein comprises an affinity tag.
39. An isolated polynucleotide encoding a fusion protein according to claim 35.
40. A pharmaceutical composition comprising a fusion protein according to claim 32, in combination with a physiologically acceptable carrier.
41. A vaccine comprising a fusion protein according to claim 35, in combination with a non-specific immune response enhancer.
42. A vaccine according to claim 41, wherein the non-specific immune response enhancer is an adjuvant.

43. A vaccine according to claim 41, wherein the non-specific immune response enhancer induces a predominantly Type I response.

44. A pharmaceutical composition comprising a polynucleotide according to claim 40, in combination with a physiologically acceptable carrier.

45. A vaccine comprising a polynucleotide according to claim 40, in combination with a non-specific immune response enhancer.

46. A vaccine according to claim 45, wherein the non-specific immune response enhancer is an adjuvant.

47. A vaccine according to claim 45, wherein the non-specific immune response enhancer induces a predominantly Type I response.

48. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a pharmaceutical composition according to claim 40 or claim 44.

49. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a vaccine according to claim 41 or claim 45.

50. A method for removing tumor cells from a biological sample, comprising contacting a biological sample with T cells that specifically react with a prostate tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:

(i) polynucleotides recited in any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472; and

(ii) complements of the foregoing polynucleotides;
wherein the step of contacting is performed under conditions and for a time sufficient to permit the removal of cells expressing the prostate tumor protein from the sample.

51. A method according to claim 50, wherein the biological sample is blood or a fraction thereof.

52. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient a biological sample treated according to the method of claim 50.

53. A method for stimulating and/or expanding T cells specific for a prostate tumor protein, comprising contacting T cells with one or more of:

- (i) a polypeptide according to claim 1;
 - (ii) a polypeptide encoded by a polynucleotide comprising a sequence provided in any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472;
 - (iii) a polynucleotide encoding a polypeptide of (i) or (ii); and/or
 - (iv) an antigen presenting cell that expresses a polypeptide of (i) or (ii);
- under conditions and for a time sufficient to permit the stimulation and/or expansion of T cells.

54. An isolated T cell population, comprising T cells prepared according to the method of claim 53.

55. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a T cell population according to claim 54.

56. A method for inhibiting the development of a cancer in a patient, comprising the steps of:

- (a) incubating CD4⁺ and/or CD8⁺ T cells isolated from a patient with at least one component selected from the group consisting of:
 - (i) a polypeptide according to claim 1;
 - (ii) a polypeptide encoded by a polynucleotide comprising a sequence of any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472;
 - (iii) a polynucleotide encoding a polypeptide of (i) or (ii); or
 - (iv) an antigen-presenting cell that expresses a polypeptide of (i) or (ii);

such that T cells proliferate; and

- (b) administering to the patient an effective amount of the proliferated T cells, and thereby inhibiting the development of a cancer in the patient.

57. A method for inhibiting the development of a cancer in a patient, comprising the steps of:

(a) incubating CD4⁺ and/or CD8⁺ T cells isolated from a patient with at least one component selected from the group consisting of:

- (i) a polypeptide according to claim 1;
- (ii) a polypeptide encoded by a polynucleotide comprising a sequence of any one of SEQ ID NOs: 1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472;
- (iii) a polynucleotide encoding a polypeptide of (i) or (ii); or
- (iv) an antigen-presenting cell that expresses a polypeptide of (i) or (ii);

such that T cells proliferate;

- (b) cloning at least one proliferated cell; and
- (c) administering to the patient an effective amount of the cloned T cells, and thereby inhibiting the development of a cancer in the patient.

58. A method for determining the presence or absence of a cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a patient with a binding agent that binds to a prostate tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:

(i) polynucleotides recited in any one of SEQ ID NOs: 1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472; and

(ii) complements of the foregoing polynucleotides;

(b) detecting in the sample an amount of polypeptide that binds to the binding agent; and

(c) comparing the amount of polypeptide to a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient.

59. A method according to claim 58, wherein the binding agent is an antibody.

60. A method according to claim 59, wherein the antibody is a monoclonal antibody.

61. A method according to claim 58, wherein the cancer is prostate cancer.
62. A method for monitoring the progression of a cancer in a patient, comprising the steps of:
- (a) contacting a biological sample obtained from a patient at a first point in time with a binding agent that binds to a prostate tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472, or a complement of any of the foregoing polynucleotides;
 - (b) detecting in the sample an amount of polypeptide that binds to the binding agent;
 - (c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and
 - (d) comparing the amount of polypeptide detected in step (c) to the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.
63. A method according to claim 62, wherein the binding agent is an antibody.
64. A method according to claim 63, wherein the antibody is a monoclonal antibody.
65. A method according to claim 62, wherein the cancer is a prostate cancer.
66. A method for determining the presence or absence of a cancer in a patient, comprising the steps of:
- (a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a prostate tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472, or a complement of any of the foregoing polynucleotides;
 - (b) detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide; and

(c) comparing the amount of polynucleotide that hybridizes to the oligonucleotide to a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient.

67. A method according to claim 66, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a polymerase chain reaction.

68. A method according to claim 66, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a hybridization assay.

69. A method for monitoring the progression of a cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a prostate tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472, or a complement of any of the foregoing polynucleotides;

(b) detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide;

(c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and

(d) comparing the amount of polynucleotide detected in step (c) to the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

70. A method according to claim 69, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a polymerase chain reaction.

71. A method according to claim 69, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a hybridization assay.

72. A diagnostic kit, comprising:

- (a) one or more antibodies according to claim 21; and
- (b) a detection reagent comprising a reporter group.

73. A kit according to claim 72, wherein the antibodies are immobilized on a solid support.

74. A kit according to claim 73, wherein the solid support comprises nitrocellulose, latex or a plastic material.

75. A kit according to claim 72, wherein the detection reagent comprises an anti-immunoglobulin, protein G, protein A or lectin.

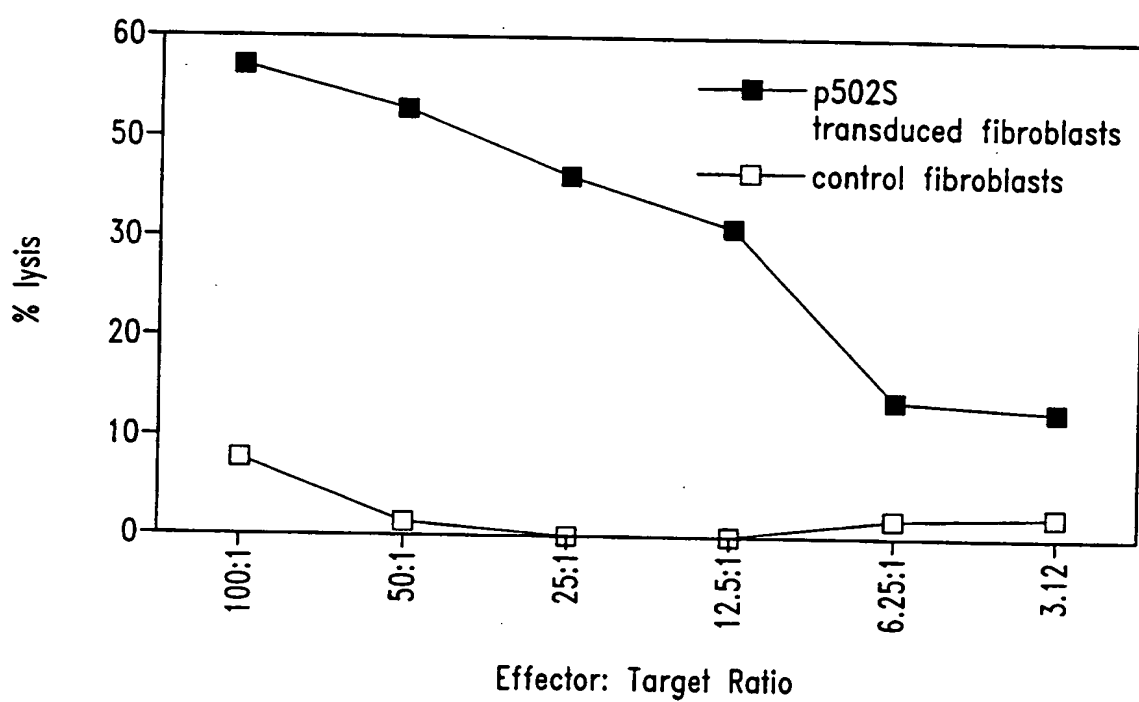
76. A kit according to claim 72, wherein the reporter group is selected from the group consisting of radioisotopes, fluorescent groups, luminescent groups, enzymes, biotin and dye particles.

77. An oligonucleotide comprising 10 to 40 nucleotides that hybridize under moderately stringent conditions to a polynucleotide that encodes a prostate tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472, or a complement of any of the foregoing polynucleotides.

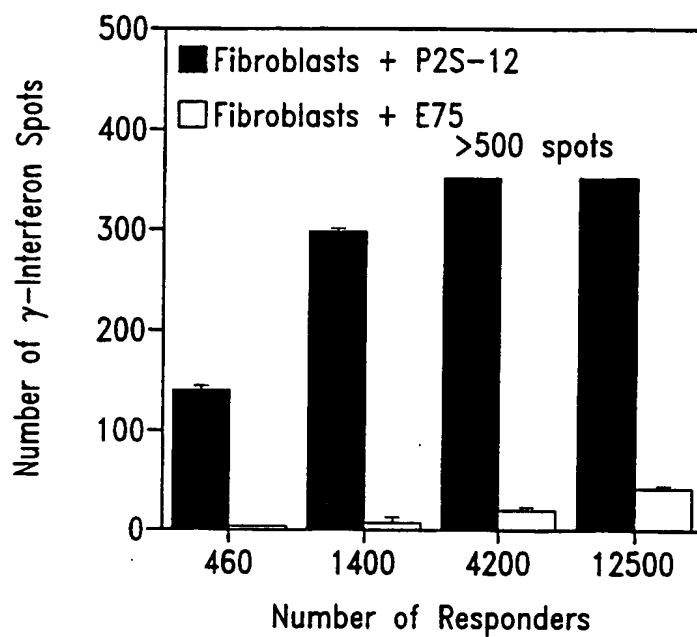
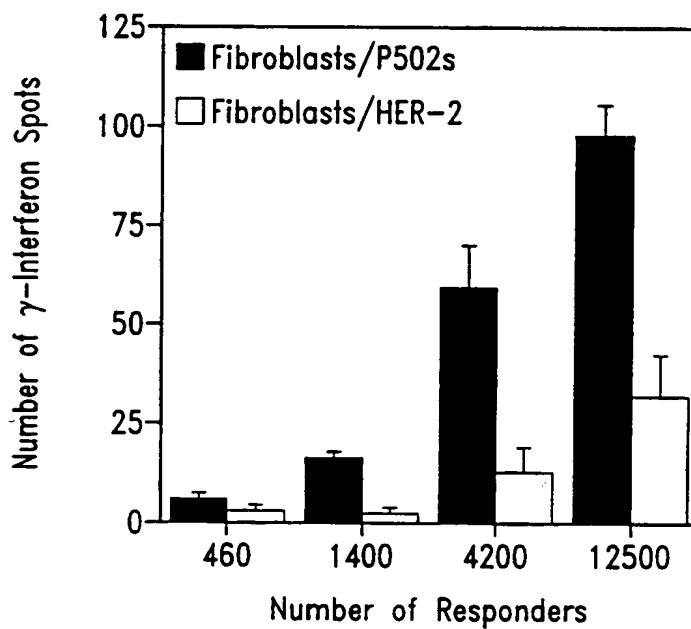
78. A oligonucleotide according to claim 77, wherein the oligonucleotide comprises 10-40 nucleotides recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472.

79. A diagnostic kit, comprising:
(a) an oligonucleotide according to claim 77; and
(b) a diagnostic reagent for use in a polymerase chain reaction or hybridization assay.

1/5

*Fig. 1*

2/5

*Fig. 2A**Fig. 2B*

3/5

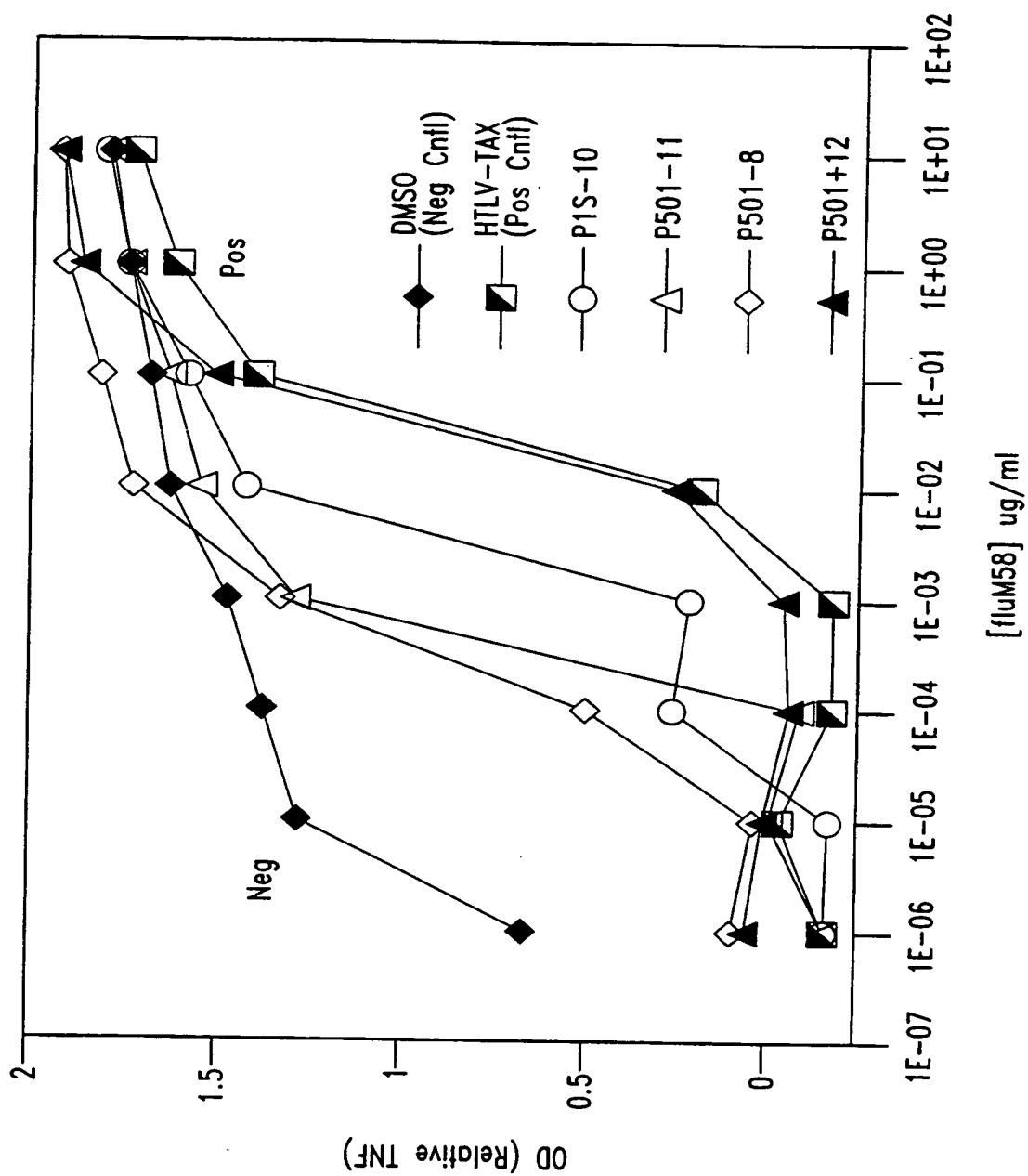
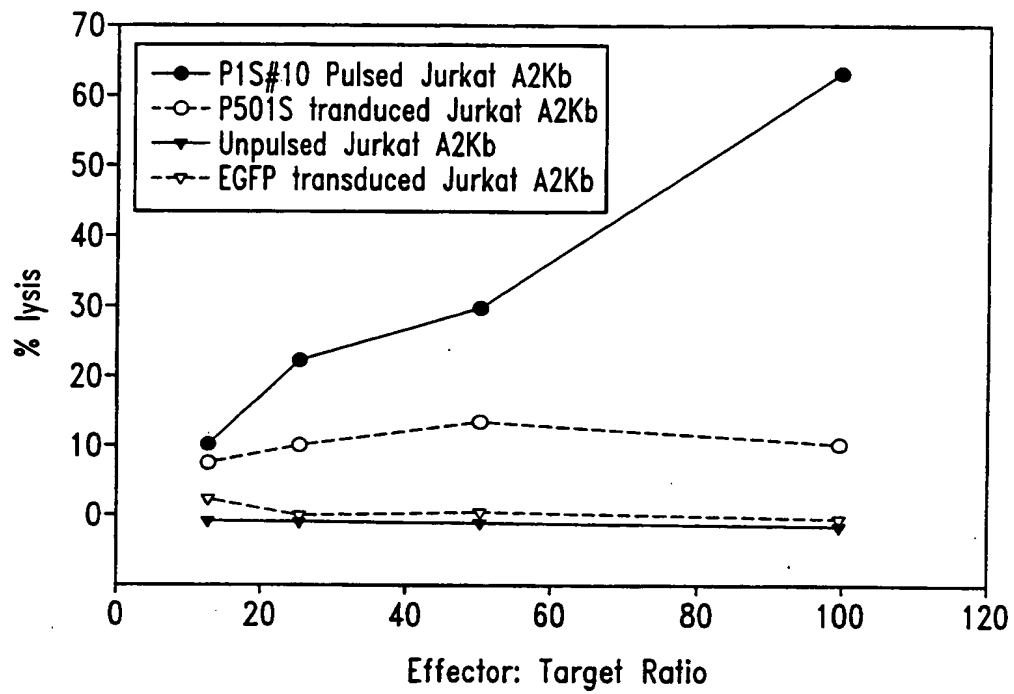
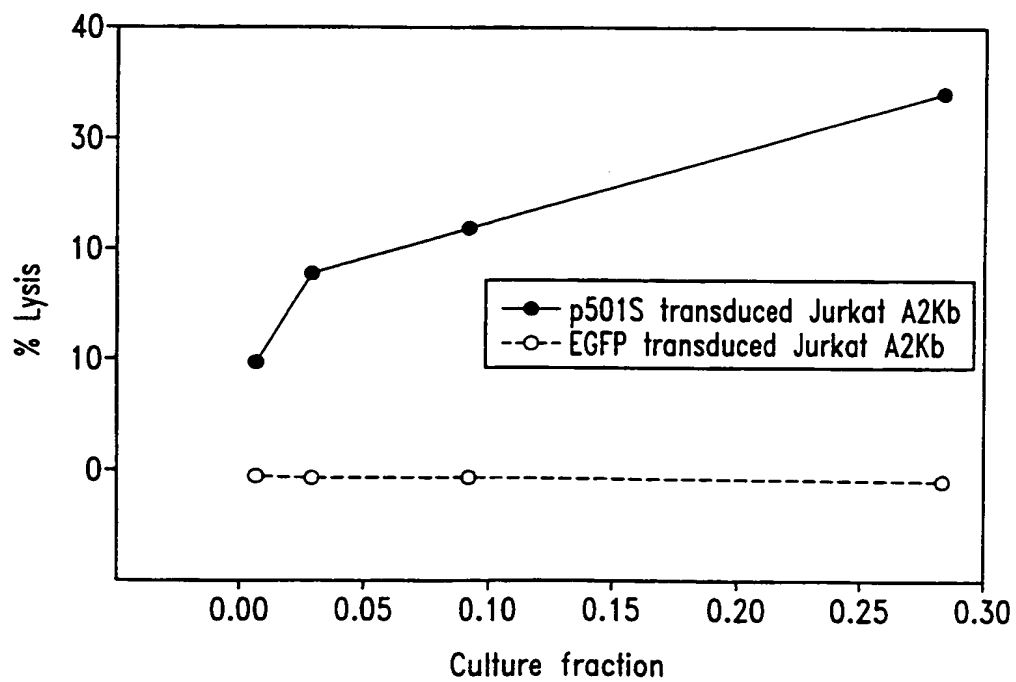


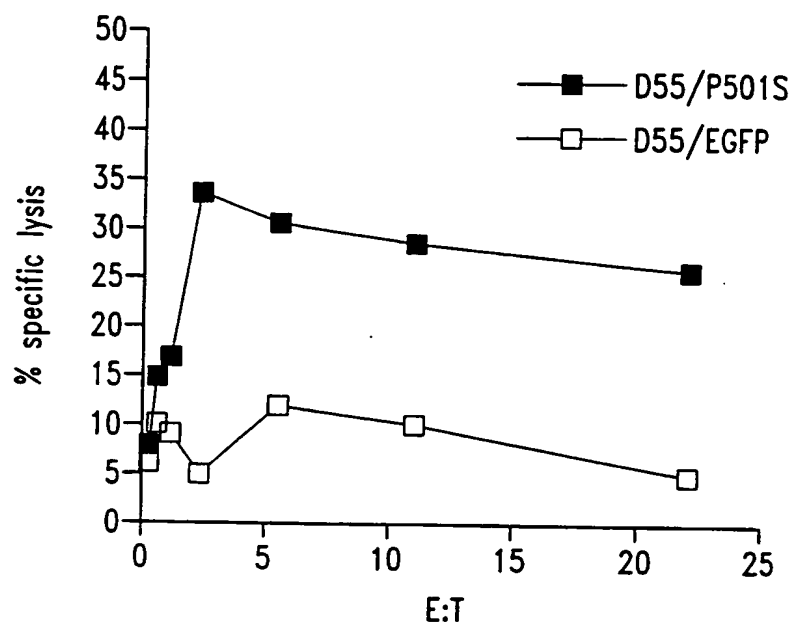
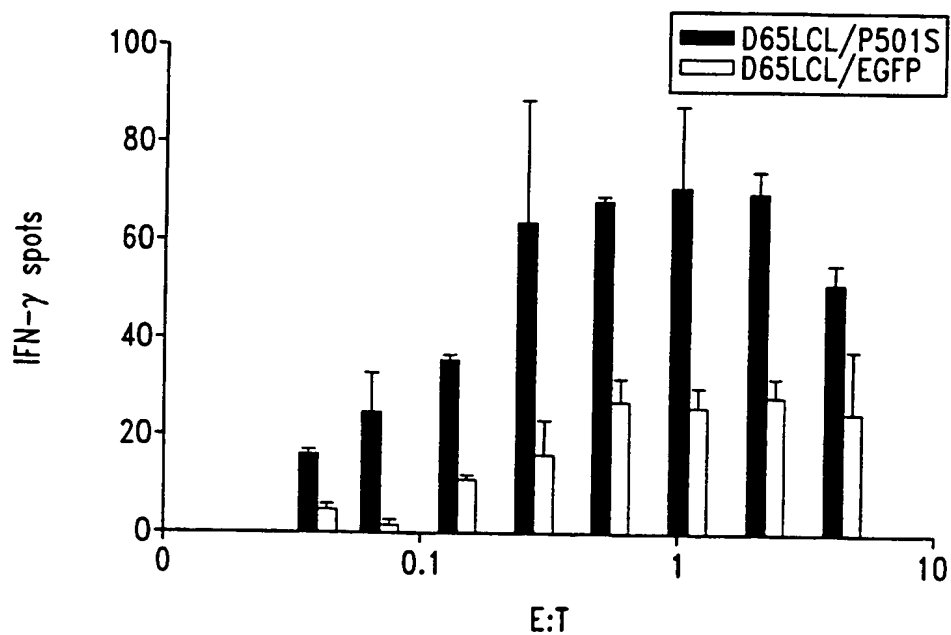
Fig. 3

4/5

*Fig. 4**Fig. 5*

SUBSTITUTE SHEET (RULE 26)

5/5

*Fig. 6**Fig. 7*

SEQUENCE LISTING

<110> Corixa Corporation

<120> COMPOUNDS FOR IMMUNOTHERAPY AND DIAGNOSIS
OF PROSTATE CANCER AND METHODS FOR THEIR USE

<130> 210121.42701PC

<140> PCT

<141> 1999-07-08

<160> 472

<170> FastSEQ for Windows Version 3.0

<210> 1

<211> 814

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(814)

<223> n = A,T,C or G

<400> 1

tttttttttt	tttttcacag	tataacagct	ctttatttct	gtgagttcta	ctaggaaatc	60
atcaaactcg	agggttgtct	ggaggacttc	aatacacctc	cccccatagt	gaatcagctt	120
ccaggggggc	cagtccctct	ccttacttca	tccccatccc	atgccaaagg	aagaccctcc	180
ctccttggtc	cacagccttc	tctaggtctc	ccagtgcctc	caggacagag	tgggttatgt	240
tttcagctcc	atccttgctg	tgagtgtctg	gtgcgttggtg	cctccagctt	ctgctcagtg	300
cttcattggac	agtgtccagc	acatgtcact	ctccactctc	tcagtgtgga	tccactagtt	360
ctagagcggc	cgccaccgcg	gtggagctcc	agcttttggt	cccttttagtg	agggttaatt	420
gcgcgcttgg	cgtaatcatg	gtcataactg	tttcctgtgt	gaaattgtta	tccgctcaca	480
attccacaca	acatacgagc	cggaagcata	aagtgtaaag	cctgggggtgc	ctaattgagtg	540
anctaaactca	cattaattgc	gttgcgctca	ctgnccgctt	tccagtcngg	aaaactgtcg	600
tgccagctgc	attaatgaat	cggccaaacgc	ncgggggaaaa	gcggtttgcg	ttttgggggc	660
tcttcgcgtt	ctcgctcact	nantcctgcg	ctcggtcntt	cggctgcggg	gaacgggtatc	720
actcctcaaa	ggnggtatta	cggttatccn	naaatcnggg	gatacccngg	aaaaaanttt	780
aacaaaaggg	cancaaaggg	cngaaacgta	aaaa			814

<210> 2

<211> 816

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(816)

<223> n = A,T,C or G

<400> 2

acagaaatgt	tggatgggtg	agcacctttc	tatacgactt	acaggacagc	agatggggaa	60
ttcatggctg	ttggagcaat	agaacccag	ttctacgagc	tgctgatcaa	aggact*ggg	120

ctaaagtctg	atgaacttcc	caatcagatg	agcatggatg	attggccaga	aatgaagaag	180
aagtttgcag	atgtatttgc	aaagaagacg	aaggcagagt	ggtgtcaa	ctttgacggc	240
acagatgcct	gtgtgactcc	ggttctgact	tttgaggagg	ttgttcatca	tgatcacaac	300
aaggaacggg	gctcgtttat	caccagttag	gagcaggacg	tgagcccccg	ccctgcacct	360
ctgctgttaa	acaccccagc	catcccttct	ttcaaaaggg	atccactagt	tctagaagcg	420
gccgccaccg	cgggtggagct	ccagcttttg	ttcccttttag	tgagggttaa	ttgcgcgctt	480
ggcgtaataca	tggtcatagc	tgtttcctgt	gtgaaattgt	tatccgctca	caattccccc	540
aacatacgag	ccggaacata	aagtgttaag	cctgggggtgc	ctaagtantg	agctaactcn	600
cattaattgc	gttgcgctca	ctgcccgcct	tccagtcggg	aaaactgtcg	tgccactgcn	660
ttantgaatc	ngccaccccc	cgggaaaagg	cggttgcntt	ttgggcctct	tccgctttcc	720
tcgctcattg	atcctngcnc	ccggtcttcg	gctgcggnga	acggttcact	cctcaaaggc	780
ggtntnccgg	ttatccccaa	acnggggata	cccnga			816

<210> 3

<211> 773

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(773)

<223> n = A,T,C or G

<400> 3

cttttgaaaag	aagggatggc	tgggggtgttt	aacagcagag	gtgcagggcg	ggggctcacg	60
tcctgctcct	cactgggtgat	aaacgagccc	cggttccttgt	tgtgatcatg	atgaacaacc	120
tcctcaaaaag	tcagaaccgg	agtccacacag	gcatctgtgc	cgtcaaagat	ttgacaccac	180
tctgccttcg	tcttctttgc	aaatacatct	gcaaacttct	tcttcatttc	tggccaatca	240
tccatgctca	tctgattggg	aagttcatca	gacttttagtc	canntccttt	gatcagcagc	300
tcgtagaact	ggggttctat	tgctccaaca	gccatgaatt	ccccatctgc	tgctctgtaa	360
gtcgtataga	aagggtgctcc	accatccaac	atgttctgtc	ctcgaggggg	ggccccgtac	420
ccaattcgcc	ctatantgag	tcgtattacg	cgcgctcact	ggccgctcgt	ttacaacgct	480
gtgactggga	aaaccctggg	cgttaccaac	ttaatcgctt	tgagcacat	ccccctttcg	540
ccagctgggc	gtaatanca	aaaggccccg	accgatcgcc	cttccaacag	ttgcgcacct	600
gaatgggnaa	atgggacccc	cctgtttaccg	cgcattnaac	ccccgcnggg	tttngttggt	660
acccccacnt	nnaccgctta	cactttgcca	gcgccttanc	gcccgcctcc	tttcnccttt	720
cttcccttcc	tttcncncn	ctttcccccg	gggtttcccc	cntcaaacc	cna	773

<210> 4

<211> 828

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(828)

<223> n = A,T,C or G

<400> 4

cctcctgagt	cctactgacc	tgtgctttct	ggtgtggagt	ccagggctgc	taggaaaagg	60
aatgggcaga	cacagggtga	tgccaatgtt	tctgaaatgg	gtataatttc	gtcctctcct	120
tcggaacact	ggctgtctct	gaagacttct	cgctcagttt	cagtgaggac	acacacaaaag	180
acgtgggtga	ccatgttggt	tgtgggggtgc	agagatggga	gggggtggggc	ccaccctgga	240
agagtggaca	gtgacacaag	gtggacactc	tctacagatc	actgaggata	agctggagcc	300
acaatgcatg	aggcacacac	acagcaagga	tgacnctgta	aacatagccc	acgctgtcct	360

```

gngggcactg ggaagcctan atnaggccgt gagcanaaag aaggggagga tccactagtt 420
ctanagcggc cgccaccgcg gtgganctcc ancttttgtt cccttttagtg aggggttaatt 480
gcgcgcttgg cntaatcatg gtcatanctn ttctctgtgt gaaattgtta tccgctcaca 540
attccacaca acatacganc cggaacata aantgtaaac ctgggggtgcc taatgantga 600
ctaactcaca ttaattgcgt tgcgctcact gcccgtttc caatcnggaa acctgtcttg 660
ccncttgcac tnatgaatcn gccaaacccc ggggaaaagc gtttgcgttt tgggcgctct 720
tccgcttcct cnetcantta ntccctncnc tcggtcatte cggctgcngc aaaccgggtc 780
accncctcca aagggggtat tccgggtttcc cnaatccgg gganancc 828

```

```

<210> 5
<211> 834
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(834)
<223> n = A,T,C or G

```

```

<400> 5
tttttttttt tttttactga tagatggaat ttattaagct tttcacatgt gatagcacat 60
agttttaatt gcatccaaag tactaacaaa aactctagca atcaagaatg gcagcatgtt 120
attttataac aatcaacacc tgtggctttt aaaatttggg ttccataaga taattttatac 180
tgaagtaaat ctagccatgc ttttaaaaaa tgcttttaggt cactccaagc ttggcagtta 240
acatttggca taaacaataa taaaacaatc acaatttaat aaataacaaa tacaacattg 300
taggccataa tcatatacag tataaggaaa aggtggtagt gttgagtaag cagttattag 360
aatagaatac cttggcctct atgcaaatat gtctagacac tttgattcac tcagccctga 420
cattcagttt tcaaagtagg agacagggtc tacagtatca ttttacagtt tccaacacat 480
tgaaaacaag tagaaaatga tgagttgatt tttattaatg cattacatcc tcaagagtta 540
tcaccaaccc ctgagttata aaaaattttc aagttatatt agtcatataa cttgggtgtgc 600
ttatttttaa ttagtgctaa atggattaag tgaagacaac aatgggtccc taatgtgatt 660
gatattgggtc atttttacca gcttctaaat ctnaactttc aggccttttg actggaacat 720
tgnatnacag tgttccanag ttncaaccta ctggaacatt acagtgtgct tgattcaaaa 780
tgttattttg ttaaaaatta aattttaacc tggtggaata ataatttgaa atna 834

```

```

<210> 6
<211> 818
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(818)
<223> n = A,T,C or G

```

```

<400> 6
tttttttttt tttttttttt aagaccctca tcaatagatg gagacatata gaaatagtca 60
aaccacatct acaaaatgcc agtatcaggc ggcggcttcg aagccaaagt gatgtttgga 120
tgtaaagtga aatattagtt ggcggatgaa gcagatagtg aggaaagttg agccaataat 180
gacgtgaagt ccgtggaagc ctgtggctac aaaaaatgtt gagccgtaga tgccgtcggg 240
aatggtgaag ggagactcga agtactctga ggctttagtg agggtaaaat agagaccag 300
taaaattgta ataagcagtg cttgaattat ttgggttcgg ttgttttcta ttagactatg 360
gtgagctcag gtgattgata ctctgatgc gagtaatacg gatgtgttta ggagtgggac 420
ttctagggga tttagcgggg tgatgcctgt tgggggccag tgccctccta gttggggggg 480
aggggctagg ctggagtggg aaaaggctca gaaaaatcct gcgaagaaaa aaacttctga 540

```

ggtaataaat	aggattatcc	cgtatcgaag	gccttttttg	acaggtggtg	tgtggtggcc	600
ttggtatgtg	ctttctcgtg	ttacatcgcg	ccatcattgg	tatatgggta	gtgtgttggg	660
ttantanggc	ctantatgaa	gaacttttgg	antggaatta	aatcaatngc	ttggccggaa	720
gtcattanga	nggctnaaaa	ggccctgtta	nggggtctggg	ctngggtttta	cccnacccat	780
ggaatncccc	ccccggacna	ntgnatccct	attctttaa			818

<210> 7
 <211> 817
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(817)
 <223> n = A,T,C or G

<400> 7						
tttttttttt	tttttttttt	tggtctctaga	gggggtagag	ggggtgctat	agggtaaata	60
cgggccctat	ttcaaagatt	tttaggggaa	ttaattctag	gacgatgggt	atgaaactgt	120
ggtttgctcc	acagatttca	gagcattgac	cgtagtatac	ccccggtcgt	gtagcgggta	180
aagtgggttg	gttttagacgt	ccgggaattg	catctgtttt	taagcctaata	gtggggacag	240
ctcatgagtg	caagacgtct	tgtgatgtaa	ttattatacn	aatgggggct	tcaatcgggg	300
gtactactcg	attgtcaacg	tcaaggagtc	gcaggctcgcc	tggttctagg	aataatgggg	360
gaagtatgta	ggaattgaag	attaatccgc	cgtagtcggt	gttctcctag	gttcaatacc	420
attggtggcc	aattgatttg	atggtaaggg	gagggatcgt	tgaactcgtc	tggtatgtaa	480
aggatncctt	ngggatggga	aggcnatnaa	ggactangga	tnaatggcgg	gcangatatt	540
tcaaacngtc	tctanttcct	gaaacgtctg	aaatgttaata	aanaattaan	tttngttatt	600
gaatnttng	gaaaagggtc	tacaggacta	gaaacccaaat	angaaaanta	atnntaangg	660
cnttatcntn	aaaggtnata	accnctccta	tnatcccacc	caatngnatt	ccccacnenn	720
acnattggat	nccccanttc	canaaanggc	cnccccccg	tgnannccnc	cttttgttcc	780
cttnantgan	ggttattcnc	ccctngcntt	atcancc			817

<210> 8
 <211> 799
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(799)
 <223> n = A,T,C or G

<400> 8						
catttccggg	tttactttct	aaggaaagcc	gagcggaagc	tgctaacgtg	ggaatcggtg	60
cataaggaga	actttctgct	ggcacgcgct	agggacaagc	gggagagcga	ctccgagcgt	120
ctgaagcgca	cgtcccagaa	ggtggacttg	gcactgaaac	agctgggaca	catccgcgag	180
tacgaacagc	gcctgaaagt	gctggagcgg	gaggtccagc	agtgtagccg	cgtcctgggg	240
tggttgggcg	angcctganc	cgctctgcct	tgctgcccc	angtggggcg	ccacccccctg	300
acctgcctgg	gtccaaacac	tgagccctgc	tgggcgactt	caagganaac	ccccacangg	360
ggattttgct	cctanantaa	ggctcatctg	ggcctcgggc	cccccacctg	gttggccttg	420
tctttgangt	gagccccatg	tccatctggg	ccactgtcng	gaccaccttt	ngggagtgtt	480
ctccttacia	ccacannatg	cccggctcct	cccggaaacc	antcccancc	tgngaaggat	540
caagnccctg	atccactnnt	nctanaaccg	gccnccnccg	cngtgggaacc	cnccttntgt	600
tccttttcnt	tnagggttaa	tnnccgcttg	gccttnccan	ngtcctncnc	nttttccnnt	660
gttnaaattg	ttangcnccc	nccnntcccn	cnnnnnnan	cccgaaccnn	annttnnann	720

ncctgggggt nccnncngat tgaccenncc nccctntant tgcnttnggg nncnntgccc 780
ctttccctct nggganncg 799

<210> 9
<211> 801
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(801)
<223> n = A,T,C or G

<400> 9
acgccttgat cctcccaggc tgggactggg tctgggagga gccgggcatg ctgtgggttg 60
taangatgac actcccaaag gtggtcctga cagtggccca gatggacatg gggctcacct 120
caaggacaag gccaccaggc gcggggggccg aagcccacat gatccttact ctatgagcaa 180
aatcccctgt ggggggcttct ccttgaagtc cgccancagg gctcagtctt tggaccang 240
caggtcattg ggttgtnngc caactggggg ccncaacgca aaanggcncg gggcctcngn 300
caccatccc angacgcggc tacactnctg gacctccnc tccaccactt tcatgcgctg 360
ttentacccg cgnatntgtc ccactgttt cngtgccnac tccancttct nggacgtgcg 420
ctacatacgc ccggantcnc nctcccgtt tgtccctatc cagtnccan caacaaattt 480
cncctantg caccnattcc cacntttnc agntttccnc nncnggcttc cttntaaaag 540
ggttgancc cggaataatnc cccaaagggg gggggccngg tacccaactn cccctnata 600
gctgaantcc ccatnaccnn gnctcnatgg anccntcctt tttaannacn ttctnaactt 660
gggaanancc ctgcncctn ccccnnttaa tccnccttg cnangnncnt ccccnntcc 720
ncccnntng gcntntnann cnaaaaaggc ccnnancaa tctctnnen cctcanttcg 780
ccanccctcg aaatcggccn c 801

<210> 10
<211> 789
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(789)
<223> n = A,T,C or G

<400> 10
cagtctatnt ggccagtgtg gcagctttcc ctgtggctgc cgggtgccaca tgcctgtccc 60
acagtgtggc cgtgggtgaca gcttcagccg ccctcaccgg gtccaccttc tcagccctgc 120
agatcctgcc ctacacactg gcctccctct accaccggga gaagcagggtg ttctgcccc 180
aataccgagg ggacactgga ggtgctagca gtgaggacag cctgatgacc agcttcctgc 240
caggccctaa gcctggagct cccttcctta atggacacgt ggggtgctgga ggcagtggcc 300
tgctcccacc tccaccgcg ctctgcgggg cctctgcctg tgatgtctcc gtacgtgtgg 360
tggtgggtga gccaccgan gccagggtgg ttccggggccg gggcatctgc ctggacctcg 420
ccatcctgga tagtgcttcc tgctgtccca ngtggcccca tccctgttta tgggctccat 480
tgtccagctc agccagtctg tactgccta tatgggtgtc gccgcaggcc tgggtctggt 540
cccatctact ttgctacaca ggtantattt gacaagaacg anttggccaa atactcagcg 600
ttaaaaaatt ccagcaacat tgggggtgga aggcctgcct cactgggtcc aactccccgc 660
tcctgttaac cccatggggc tgccggcttg gccgccaat tctgttgctg ccaaantnat 720
gtggctctct gctgccacct gttgctggct gaagtgcnta cngcncanct nggggggtng 780
gnggttccc 789

<210> 11
 <211> 772
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(772)
 <223> n = A,T,C or G

<400> 11

cccaccctac	ccaaatatta	gacaccaaca	cagaaaagct	agcaatggat	tcccttctac	60
tttggttaa	aaataagtta	aatattttaa	tgcctgtgtc	tctgtgatgg	caacagaagg	120
accaacaggc	cacatcctga	taaaaggtaa	gaggggggtg	gatcagcaaa	aagacagtgc	180
tgtgggctga	ggggacctgg	ttcttgtgtg	ttgcccctca	ggactcttcc	cctacaaata	240
actttcatat	gttcaaatcc	catggaggag	tgtttcatcc	tagaaactcc	catgcaagag	300
ctacattaaa	cgaagctgca	ggttaagggg	cttanagatg	ggaaaccagg	tgactgagtt	360
tattcagctc	ccaaaaaccc	ttctctaggt	gtgtctcaac	taggaggcta	gctgttaacc	420
ctgagcctgg	gtaatccacc	tgcagagtcc	ccgcattcca	gtgcatggaa	cccttctggc	480
ctccctgtat	aagtccagac	tgaaaccccc	ttggaaggnc	tccagtcagg	cagccctana	540
aactgggggaa	aaaagaaaaa	gacgccccan	ccccagctg	tgcanctacg	cacctcaaca	600
gcacaggggtg	gcagcaaaaa	aaccacttta	ctttggcaca	aacaaaaact	nggggggggca	660
accccggcac	cccnangggg	gttaacagga	ancngggnaa	cntggaaccc	aattnaggca	720
ggcccnccac	ccnnaatntt	gctgggaaat	ttttcctccc	ctaaattntt	tc	772

<210> 12
 <211> 751
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(751)
 <223> n = A,T,C or G

<400> 12

gccccaatcc	cagctgccac	accacccacg	gtgactgcat	tagttcggat	gtcatacaaa	60
agctgattga	agcaaccctc	tacttttttg	tcgtgagcct	tttgcttggg	gcaggtttca	120
ttggctgtgt	tggtgacgtt	gtcattgcaa	cagaatgggg	gaaaggcact	gttctctttg	180
aagtanggtg	agtcctcaaa	atccgtatag	ttgggtgaagc	cacagcactt	gagccctttc	240
atgggtggtg	tccacacttg	agtgaagtct	tcttggggaa	cataatcttt	cttgatggca	300
ggcactacca	gcaacgtcag	ggaagtgtc	agccattgtg	gtgtacacca	aggcgaccac	360
agcagctgcn	acctcagcaa	tgaagatgan	gaggangatg	aagaagaacg	tcncgagggc	420
acacttgctc	tcagtcttan	caccatanca	gcccntgaaa	accaananca	aagaccacna	480
cncgggtgc	gatgaagaaa	tnaccccneg	ttgacaaaact	tgcatggcac	tggganccac	540
agtggcccn	aaaatcttca	aaaaggatgc	cccactnatt	gaccccccaa	atgcccactg	600
ccaacagggg	ctgccccacn	cncnnaacga	tgancnatt	gnacaagatc	tncntggtct	660
tnatnaacnt	gaaccctgcn	tngtggctcc	tgttcaggnc	cnnngcctga	cttctnaann	720
aangaactcn	gaagncccca	cngganann	g			751

<210> 13
 <211> 729
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(729)
 <223> n = A,T,C or G

<400> 13
 gagccaggcg tccctctgcc tgcccactca gtggcaacac ccgggagctg ttttgcctt 60
 tgtggancct cagcagtncc ctctttcaga actcantgcc aagancctg aacaggagcc 120
 accatgcagt gcttcagctt cattaagacc atgatgatcc tcttcaattt gctcatcttt 180
 ctgtgtggtg cagccctggt ggcagtgggc atctgggtgt caatcgatgg ggcacccctt 240
 ctgaagatct tcgggccact gtcgtccagt gccatgcagt ttgtcaacgt gggctacttc 300
 ctcatcgtag ccggcggtgt ggtcttagct ctaggtttcc tgggctgcta tgggtgctaag 360
 actgagagca agtgtgccct cgtgacgttc ttcttcatcc tctcctcat cttcattgct 420
 gaggttgcaa tgctgtggtc gccttggtgt acaccacaat ggctgagcac ttcctgacgt 480
 tgctggtaat gcctgccatc aanaaaagat tatgggttcc caggaanact tcaactcaagt 540
 gttggaacac caccatgaaa gggctcaagt gctgtggctt cnnccaacta tacggatttt 600
 gaagantcac ctacttcaaa gaaaanagt cctttccccc atttctgttg caattgacaa 660
 acgtcccaa cacagccaat tgaaaacctg caccacaacc aaanggggtcc ccaaccanaa 720
 attnaaggg 729

<210> 14
 <211> 816
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(816)
 <223> n = A,T,C or G

<400> 14
 tgctcttcct caaagttggt cttgttgcca taacaaccac cataggtaaa gcgggagcag 60
 tgttcgctga aggggttgta gtaccagcgc gggatgctct ccttgagag tcctgtgtct 120
 ggcagggtcca cgcagtgcc tttgtcactg gggaaatgga tgcgctggag ctctgcaaag 180
 ccaactcgtgt atttttcaca ggcagcctcg tccgacgcgt cggggcagtt ggggggtgtct 240
 tcacactcca ggaaactgtc natgcagcag ccattgctgc agcgggaactg ggtgggctga 300
 cangtgccag agcacactgg atggcgccct tccatgnnan gggccctgng ggaaagtccc 360
 tganccccan anctgcctct caaangcccc accttgacac ccccgacagg ctagaatgga 420
 atcttcttcc cgaaaggtag ttnttcttgt tgcccaancc anccccntaa acaaactctt 480
 gcanatctgc tccgnggggg tcntantacc ancgtgggaa aagaacccca ggcngcgaac 540
 caancttggt tggaatcgaa gcnataatct nctnttctgc ttggtggaca gcaccantna 600
 ctgtnnanct ttagncctg gtcctcntgg gttgnncttg aacctaaten ccnntcaact 660
 gggacaaggt aantngccnt cctttnaatt cccnancntn ccccttggtt tgggggttttn 720
 cncnctccta cccagaaan nccgtgttcc cccccaacta ggggccnaaa ccnnttnttc 780
 cacaacctn cccacccac ggggttcngt ggttng 816

<210> 15
 <211> 783
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(783)
 <223> n = A,T,C or G

<400> 15

ccaaggcctg	ggcaggcata	nacttgaagg	tacaacccca	ggaacccctg	gtgctgaagg	60
atgtggaaaa	cacagattgg	cgcctactgc	ggggtgacac	ggatgtcagg	gtagagagga	120
aagacccaaa	ccaggtggaa	ctgtggggac	tcaaggaang	cacctacctg	ttccagctga	180
cagtgactag	ctcagaccac	ccagaggaca	cggccaacgt	cacagtcact	gtgctgtcca	240
ccaagcagac	agaagactac	tgcctcgcat	ccaacaangt	gggtcgctgc	cggggctctt	300
tcccacgctg	gtactatgac	cccacggagc	agatctgcaa	gagtttcggt	tatggaggct	360
gcttgggcaa	caagaacaac	taccttcggg	aagaagagtg	cattctancc	tgtcnggggtg	420
tgcaagggtg	gcctttgana	ngcanctctg	gggctcangc	gactttcccc	cagggccctt	480
ccatggaaa	gcgccatcca	ntgttctctg	gcacctgtca	gccccaccag	ttccgctgca	540
ncaatggctg	ctgcacnac	antttcctng	aattgtgaca	acacccccca	ntgcccccaa	600
ccctcccaac	aaagcttccc	tgtnnaaaaa	tacnccantt	ggcttttnac	aaacncccg	660
cncctcctt	ttcccnntn	aacaaagggc	nctngcnttt	gaactgccc	naacccngaa	720
tctnccnng	aaaaantncc	cccctgggtt	cctnnaancc	cctccncnaa	anctncccc	780
ccc						783

<210> 16

<211> 801

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(801)

<223> n = A,T,C or G

<400> 16

gccccaatc	cagctgccac	accacccacg	gtgactgcat	tagttcggat	gtcatacaaa	60
agctgattga	agcaaccctc	tacttttttg	tcgtgagcct	tttgcttggt	gcaggtttca	120
ttggctgtgt	tgggtgacgtt	gtcattgcaa	cagaatgggg	gaaaggcact	gttctctttg	180
aagtaggggtg	agtcctcaaa	atccgtatag	ttggtgaagc	cacagcactt	gagccctttc	240
atgggtgggtg	tccacacttg	agtgaagtct	tcctgggaac	cataatcttt	cttgatggca	300
ggcactacca	gcaacgtcag	gaagtgtctc	gccattgtgg	tgtacaccaa	ggcgaccaca	360
gcagctgcaa	cctcagcaat	gaagatgagg	aggaggatga	agaagaacgt	cncgagggca	420
cacttgctct	ccgtcttagc	accatagcag	cccangaaac	caagagcaaa	gaccacaacg	480
ccngctgcca	atgaaagaaa	ntaccacgt	tgacaaactg	catggccact	ggacgacagt	540
tggccccgaan	atcttcagaa	aagggatgcc	ccatcgattg	aacaccana	tgcccactgc	600
cnacaggggt	gcnccnncn	gaaagaatga	gccattgaag	aaggatcntc	ntggtcttaa	660
tgaactgaaa	ccntgcatgg	tggccctgt	tcagggtctt	tggcagtga	ttctganaaa	720
aaggaacngc	ntnagcccc	ccaaangana	aaacaccccc	gggtgttgcc	ctgaattggc	780
ggccaaggan	ccctgccccn	g				801

<210> 17

<211> 740

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(740)

<223> n = A,T,C or G

<400> 17

gtgagagcca	ggcgtccctc	tgcctgcccc	ctcagtggca	acaccggga	gctgttttgt	60
------------	------------	------------	------------	-----------	------------	----

cctttgtgga	gcctcagcag	ttccctcttt	cagaactcac	tgccaagagc	cctgaacagg	120
agccaccatg	cagtgcattca	gcttcattaa	gaccatgatg	atcctcttca	atttgctcat	180
ctttctgtgt	ggtgcagccc	tggtggcagt	gggcatctgg	gtgtcaatcg	atggggcatc	240
ctttctgaag	atcttcgggc	cactgtcgtc	cagtgccatg	cagtttgtca	acgtgggcta	300
cttcctcatc	gcagccggcg	ttgtggtctt	tgctcttggt	ttcctgggct	gctatgggtg	360
taagacggag	agcaagtgtg	ccctcgtgac	gttcttcttc	atcctcctcc	tcattctcat	420
tgctgaagtt	gcagctgctg	tggtcgccct	ggtgtacacc	acaatggctg	aaccattcct	480
gacgttgctg	gtantgcctg	ccatcaanaa	agattatggg	ttcccaggaa	aaattcactc	540
aantntggaa	caccnccatg	aaaagggtc	caatttctgn	tggttcccc	aactataccg	600
gaattttgaa	agantcnccc	tacttccaaa	aaaaaanant	tgcttttnc	ccnttctgt	660
tgcaatgaaa	acntcccaan	acngccaatn	aaaacctgcc	cnnncaaaaa	ggntcncaaa	720
caaaaaaant	nnaagggttn					740

<210> 18
 <211> 802
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(802)
 <223> n = A,T,C or G

<400> 18	
ccgctgggtg	cgctgggtcca gngnagccac gaagcacgtc agcatacaca gcctcaatca 60
caaggtcttc	cagctgccgc acattacgca gggcaagagc ctccagcaac actgcatatg 120
ggatacactt	tactttagca gccagggtga caactgagag gtgtcgaagc ttattcttct 180
gagcctctgt	tagtggagga agattccggg cttcagctaa gtagtacgcg tatgtcccat 240
aagcaaacac	tgtgagcagc cggaaggtag aggcaaaagtc actctcagcc agctctctaa 300
cattgggcat	gtccagcagt tctccaaaca cgtagacacc agnggcctcc agcacctgat 360
ggatgagtgt	ggccagcgct gcccccttgg ccgacttggc taggagcaga aattgctcct 420
ggttctgccc	tgtcaccttc acttcgcgac tcatcactgc actgagtgtg ggggacttgg 480
gctcaggatg	tccagagacg tggttccgcc cctcncctta atgacaccgn ccanncaacc 540
gtcgggtccc	gccgantgng ttcgtcgtnc ctgggtcagg gtctgctggc cnetacttgc 600
aancttcgtc	nggcccatgg aattcacenc accggaactn gtangatcca ctntttctat 660
aaccggnngc	caccgcnnnt ggaactccac tcttnttncc tttacttgag ggttaaggtc 720
acccttnnng	ttaccttggg ccaaaccntn ccntgtgtcg anatngtnaa tcnggnccna 780
tnccanccnc	atangaagcc ng 802

<210> 19
 <211> 731
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(731)
 <223> n = A,T,C or G

<400> 19	
cnaagcttcc	aggtnacggg ccgcnaancc tgacccnagg tancanaang cagncngcgg 60
gagcccaccg	tcacgnngng gngtctttat nggagggggc ggagccacat cnetggacnt 120
cntgacccca	actccccncc ncnantgca gtgatgagtg cagaactgaa ggtnacgtgg 180
caggaaccaa	gancaaannc tgctccnntc caagtcggcn nagggggcgg ggctggccac 240
gncatccnt	cnagtgtgn aaagcccn cctgtctact tgtttggaga acngcnnga 300

catgcccagn	gttanataac	nggcngagag	tnantttgccc	tctcccttcc	ggctgcgcan	360
cgngtntgct	tagnggacat	aacctgacta	cttaactgaa	cccngaatac	tnccnccct	420
ccactaagct	cagaacaaaa	aacttcgaca	ccactcantt	gtcacctgnc	tgctcaagta	480
aagtgtaccc	catncccaat	gtntgctnga	ngctctgncc	tgcnttangt	tcggctcctgg	540
gaagacctat	caattnaagc	tatgtttctg	actgcctctt	gtccctgna	acaancnacc	600
cnnnntcca	agggggggnc	ggcccccaat	cccccaacc	ntnaattnan	tttancccn	660
ccccnggcc	cggcctttta	cnancntcnn	nnacngggna	aaaccnnngc	tttncccaac	720
nnaatccncc	t					731

<210> 20
 <211> 754
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(754)
 <223> n = A,T,C or G

tttttttttt	tttttttttt	taaaaacccc	ctccattnaa	tgnaaaacttc	cgaaattgtc	60
caaccccctc	ntccaaatnn	ccntttccgg	gnggggggttc	caaacccean	ttanntttgg	120
annttaaatt	aaatnttntt	tgngggnnna	anccnaatgt	nangaaagtt	naaccanta	180
tnancttnaa	tnccctggaaa	ccngtngntt	ccaaaaatnt	ttaaccctta	antccctccg	240
aaatngttna	nggaaaaccc	aantttctnt	aagggtgttt	gaaggntnaa	tnaaaanccc	300
nnccaattgt	ttttngccac	gcctgaatta	attggnttcc	gntgttttcc	nttaaaanaa	360
ggnnancccc	ggttantnaa	tccccccnnc	cccaattata	ccganttttt	ttngaattgg	420
gancccnccg	gaattaacgg	ggnnnnntccc	tnttgggggg	cngggncccc	ccccntccgg	480
ggttngggnc	aggncnnaat	tgtttaaggg	tccgaaaaat	ccctccnaga	aaaaaanctc	540
ccaggntgag	nntnggggtt	nccccccccc	cangggccct	ctcgnaagtt	tgggggttgg	600
ggggcctggg	attttntttc	ccctntttcc	tccccccccc	ccnggganag	agggtngngt	660
tttgntcnn	ggccccnccn	aaganctttt	ccganttnan	ttaaatccnt	gcctnggcga	720
agtcctntgn	agggntaaan	ggccccctnn	cggg			754

<210> 21
 <211> 755
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(755)
 <223> n = A,T,C or G

atcancccat	gaccccnac	nnngggaccnc	tcanccggnc	nnncnaccnc	cggccnatca	60
nngtnagnnc	actncnnttn	natcacnccc	cncnactac	gcccnananc	cnacgcncta	120
nncanatncc	actganngcg	cgangtngan	ngagaaanct	nataccanag	ncaccanacn	180
ccagctgtcc	nanaangcct	nnnatacnng	nnnatccaat	ntgnancctc	cnaagtattt	240
nncnncan	gattttcctn	anccgattac	ccntncccc	tanccctctc	cccccaacna	300
cgaaggcnct	ggncnnaagg	nnngcgnccc	ccgctagntc	cccnnaaggt	cncnncctta	360
aactcanccn	nattacnccg	ttcntgagta	tcactccccg	aatctcacc	tactcaactc	420
aaaaanatan	gatacaaaat	aatncaagcc	tgnttatnac	actntgactg	ggctctctatt	480
ttagnggtcc	ntnaanctc	ctaatacttc	cagtcnccct	tcnccaattt	ccnaanggct	540
ctttcngaca	gcantttttg	gttcccnntt	gggttcttan	ngaattgccc	ttcntngaac	600

gggctctntct	tttccttcgg	ttancctggn	ttcnncggc	cagttattat	ttcccntttt	660
aaattctntc	cntttanttt	tggcntttna	aacccccggc	cttgaaaacg	gccccctggg	720
aaaaggttgt	tttganaaaa	tttttgtttt	gttcc			755

<210> 22
 <211> 849
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(849)
 <223> n = A,T,C or G

<400> 22						
tttttttttt	tttttangtg	tngtcgtgca	ggtagaggct	tactacaant	gtgaanacgt	60
acgctnngan	taangcgacc	cganttctag	gannncncc	aaaatcanac	tgtgaagatn	120
atcctgnnna	cgggaanggtc	accggnggat	nntgctaggg	tgncnctcc	cannncnttn	180
cataactcng	nggccctgcc	caccaccttc	ggcgggccng	ngnccggggc	cgggtcattn	240
gnnttaaccn	cactnngcna	ncggtttccn	nccccnnng	acccngggcg	tccgggggtnc	300
tctgtcttcc	cctgnagncn	anaaantggg	ccnccggnc	ctttaccct	nnacaagcca	360
cngcenteta	nccnngccc	cccctccant	nnnggggact	gcnanngct	ccgttntctg	420
nnaccccnnn	gggtncctcg	gttgctcgant	cnaccgnang	ccanggattc	cnaaggaagg	480
tgcgttnttg	gcccctaccc	ttcgtctcgg	nnacccttc	ccgacnanga	nccgctcccg	540
cncnncgnng	cctcncctcg	caacacccgc	nctctcngt	ncggnnnccc	ccccacccgc	600
nccctcnenc	ngnecgnanc	ctcncncnc	gtctcannca	ccaccccgcc	ccgccaggcc	660
ntcanccacn	ggnggacnng	nagcncnttc	gcncgcgcg	gcgnccncc	cgcncngaa	720
ctnctcngg	ccantnncgc	tcaanccnna	cnaaacgccg	ctgcgcggcg	cgnagcgnc	780
ncctcncga	gtcctcccg	cttcnacc	angnttcn	cgaggacacn	nnaccccgcc	840
nncangcgg						849

<210> 23
 <211> 872
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(872)
 <223> n = A,T,C or G

<400> 23						
gcgcaaacta	tacttcgctc	gnactcgtgc	gcctcgtcnc	tcttttcctc	cgcaaccatg	60
tctgacnanc	ccgattnggc	ngatatcnan	aagntcganc	agtccaaact	gantaacaca	120
cacacnncan	aganaaatcc	nctgccttcc	anagtanacn	attgaacnng	agaaccangc	180
nggcgaatcg	taatnaggcg	tgcgcgcgca	atntgtcncc	gtttattntn	ccagctcnc	240
ctnccnacc	tacntcttcn	nagctgtcnn	acccctngtn	cgnaccccc	naggtcgga	300
tgcgggtttn	nntgaccgng	cnnccccctc	ccccntccat	nacgancnc	ccgcaccacc	360
nanngcncgc	nccccgnct	cttcgccncc	ctgtcctntn	cccctgtngc	ctggcnengn	420
accgcattga	ccctcgccnn	ctncnngaaa	ncgnanacgt	ccgggttggn	annancgctg	480
tgggnnngcg	tctgcnccgc	gttccttccn	ncnncttcca	ccatcttct	tacngggtct	540
ccnccctc	tcnnncaenc	cctgggacgc	tntcctntgc	cccccttnac	ccccccctt	600
cgnccgtgnc	cgnccccacc	ntcatttnca	nacgntcttc	acaannncc	ggntnnctcc	660
cnancngncn	gtcanccnag	ggaagggngg	ggnnccnntg	nttgacgttg	ngngngangtc	720
cgaanantcc	tcnccntcan	cnctaccct	cgggcgnnct	ctcngttnc	aacttancaa	780

ntctcccccg ngngcncntc tcagcctenc cnccccnct ctctgcantg tncctctgctc 840
tnaccnntac gantnttcgn cncctctttt cc 872

<210> 24
<211> 815
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(815)
<223> n = A,T,C or G

<400> 24
gcatgcaagc ttgagtattc tatagngtca cctaaatanc ttggcntaat catgggtenta 60
nctgncttcc tgtgtcaaat gtatacnaan tanatatgaa tctnatntga caagannnga 120
tcntncatta gtaacaantg tnntgtccat cctgtcngan canattccca tnnattncgn 180
cgcattcncn gncantatn taatngggaa ntcnnntnnn ncaccnncat ctatcntncc 240
gncccctgac tggagagat ggatnantt tnnntngacc nacatgttca tcttgattn 300
aanancccc cgcnngccac cgggtngnng cnagccnntc ccaagacctc ctgtggaggt 360
aacctgcgtc aganncatca aacntgggaa acccgenncc angtnnaagt ngnnncanan 420
gatcccgtec agnnttnacc atcccttcnc agcgccccct ttngtgcctt anagnngnagc 480
gtgtccnanc cncctcaacat ganacgcgcc agnccanccg caattnggca caatgtcgnc 540
gaaccccccta ggggggantna tncaaanccc caggattgtc cncncangaa atcccnanc 600
ccnccctac ccncttttgg gacngtgacc aantcccga gtncaggtcc ggcngnctc 660
ccccaccggt nncntgggg ggggtgaanct cngnntcanc cngncgaggn ntcgnaagga 720
accggnccn gnncgaanng ancntcnga agnccnnt cgtataacct cccctcncca 780
nccnacngnt agntcccccc cngggtnccg aangg 815

<210> 25
<211> 775
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(775)
<223> n = A,T,C or G

<400> 25
ccgagatgtc tcgctccgtg gccttagctg tgctcgcgt actctctctt tctggcctgg 60
aggctatcca gcgtactcca aagattcagg ttactcacg tcatccagca gagaatggaa 120
agtcaaattt cctgaattgc tatgtgtctg ggtttcatcc atccgacatt gaanttgact 180
tactgaagaa tgganagaga attgaaaaag tggagcattc agacttgtct ttcagcaagg 240
actggtcttt ctatctcntg tactacactg aattcacccc cactgaaaaa gatgagtatg 300
cctgccgtgt gaaccatgtg actttgtcac agcccaagat agttaagtgg gatcgagaca 360
tgtaagcagn cncatggaa gtttgaagat gccgcatttg gattggatga attccaaatt 420
ctgcttgctt gcnttttaat antgatatgc ntatacacc taccctttat gnccccaatt 480
tgtaggggtt acatnantgt tcnctngga catgatcttc ctttataant cncncttcg 540
aattgcccgt cncnngttn ngaatgtttc cnnaaccacg gttggctccc ccaggtcncc 600
tcttacggaa gggcctgggc cnccttncaa gggtggggga accnaaaatt tcncttntgc 660
ccncccncca cnntcttgng nncncanttt ggaacccttc cnattccctt tggcctcnna 720
nccttnncta anaaaacttn aaancgtngc naaannnttn acttcccccc ttacc 775

<210> 26

<211> 820
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(820)
 <223> n = A,T,C or G

<400> 26

anattantac	agtgtaatct	tttcccagag	gtgtgtanag	ggaacggggc	ctagaggcat	60
cccanagata	ncttatanca	acagtgcctt	gaccaagagc	tgctgggcac	atttcctgca	120
gaaaagggtg	cggtecccat	cactcctcct	ctcccatagc	catcccagag	gggtgagtag	180
ccatcangcc	ttcggtgagg	gggagtcang	gaaacaacan	accacagagc	anacagacca	240
ntgatgacca	tgggcgggag	cgagcctctt	ccctgnaccg	gggtggcana	nganagccta	300
nctgaggggt	cacactataa	acgttaacga	ccnagatnan	cacctgcttc	aagtgcaccc	360
ttcctacctg	acnaccagng	accnnnaact	gcngcctggg	gacagcncctg	ggancagcta	420
acnnagcact	cacctgcccc	cccattggccg	tncgcntccc	tggtcctgnc	aagggaagct	480
ccctgttgga	attncgggga	naccaaggga	nccccctcct	ccanctgtga	aggaaaaann	540
gatggaattt	tncccttccg	gcnntcccc	tcttccttta	cacgccccct	nntactctnc	600
tccctctntt	ntcctgncnc	acttttnacc	ccnnnatttc	ccttnattga	tcggannctn	660
ganattccac	tnncgectnc	cntcnatcng	naanacnaaa	nactntctna	cccnggggat	720
gggnnccctg	ntcatcctct	cttttctnct	accnccnntt	ctttgcctct	ccttngatca	
780tccaacntc	gntggccntn	ccccccnnn	tccttttccc			

820

<210> 27
 <211> 818
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(818)
 <223> n = A,T,C or G

<400> 27

tctgggtgat	ggcctcttcc	tcctcaggga	cctctgactg	ctctgggcca	aagaatctct	60
tgtttcttct	ccgagcccca	ggcagcgggtg	attcagccct	gcccacctg	attctgatga	120
ctgcggatgc	tgtgacggac	ccaaggggca	aatagggtcc	cagggtccag	ggaggggagc	180
ctgctgagca	cttcgcgccc	tcacctgccc	cagcccctgc	catgagctct	gggtgaggtc	240
tccgcctcca	gggttctgct	cttccangca	ngccancaag	tggcgctggg	ccacactggc	300
ttcttcctgc	ccntccctg	gctctgante	tctgtcttcc	tgtcctgtgc	angnccttg	360
gatctcagtt	tcctcncctc	anngaactct	gtttctgann	tcttcantta	actntgantt	420
tatnaccnan	tggnetgtnc	tgtcnnactt	taatgggccn	gaccggctaa	tcctccctc	480
ntcccttcc	anttcnnna	accngcttnc	cntctctccc	ccntancccg	ccngggaanc	540
ctcctttgcc	ctnaccangg	gcennnaccg	ccctnnctn	ggggggcnng	gtnnctncnc	600
ctgntnnccc	cncctcncnt	tnccctgctc	cnnncnccn	nngcannttc	ncngtccenn	660
tnnctcttcn	ngntnctnaa	ngntcncntn	tnnnnngncn	ngntnnctnc	tcctctcnc	720
chnntgnang	tnnttnnnnc	ncngnncccc	nnnnnnnnnn	nggnnnntnn	tctncncngc	780
cccncccccc	ngnattaagg	cctccnntct	ccggccnc			818

<210> 28
 <211> 731
 <212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(731)

<223> n = A,T,C or G

<400> 28

aggaagggcg	gagggatatt	gtangggatt	gagggatagg	agnataangg	gggaggtgtg	60
tcccaacatg	anggtgnngt	tctcttttga	angaggggtg	ngtttttann	ccnggtgggt	120
gattnaaccc	cattgtatgg	agnnaaagg	tttnagggat	ttttcggctc	ttatcagtat	180
ntanattcct	gtnaatcgga	aaatnatntt	tcnncnggaa	aatnttgctc	ccatccgnaa	240
attnctcccg	ggtagtgcac	nttngggggg	cngccangtt	tcccaggctg	ctanaatcgt	300
actaaagntt	naagtgggan	tncaaataaa	aacctnnac	agagnatccn	tacccgactg	360
tnnnntnct	tcgcccctng	actctgcnn	agcccaatac	ccnngngnat	gtcncccngn	420
nnngcgnnc	tgaaannnnc	tcgnggctnn	gancatcang	gggtttcgca	tcaaaagcnn	480
cgtttcncat	naaggcactt	tngectcatc	caaccnctng	ccctcncca	tttngccgtc	540
nggttcnct	acgctnnctg	cncctnnntn	ganattttnc	ccgcttnggg	naancctcct	600
gnaatgggta	gggnccttnc	ttttnaccnn	gnggtntact	aatcnctnc	acgctnctt	660
tctcnacccc	ccccctttt	caatcccanc	ggcnaatggg	gtctcccenn	cgangggggg	720
nnnccccann	c					731

<210> 29

<211> 822

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(822)

<223> n = A,T,C or G

<400> 29

actagtccag	tgtggtggaa	ttccattgtg	ttggggncnc	ttctatgant	antnttagat	60
cgctcanacc	tcacancctc	ccnacnangc	ctataangaa	nannaataga	nctgtncnnt	120
atntntacnc	tcatanncct	cnnnaccac	tccctcttaa	cccntactgt	gcctatngcn	180
tnnctantct	ntgccgcctn	cnanccaccn	gtggggccnac	cncnngnatt	ctcnatctcc	240
tcnccatntn	gcctananta	ngtncatacc	ctataacctac	nccaatgcta	nnnctaancn	300
tccatnantt	annntaacta	ccactgaent	ngactttcnc	atnanctcct	aatttgaatc	360
tactctgact	cccacngcct	annnattagc	anentcccc	nacnatntct	caaccaaate	420
ntcaacaacc	tatctanctg	ttcnccaacc	nttncctccg	atccccnnac	aacccccctc	480
ccaaataacc	nccacctgac	ncctaaccn	caccatcccc	gcaagccnan	ggncatttan	540
ccactggaat	cacnatngga	naaaaaaaaa	ccnaactctc	tancncnnat	ctccctaana	600
aatnctcctn	naatttactn	ncantnccat	caanccccac	tgaaacnnaa	ccccgttttt	660
tanatccctt	ctttcgaaaa	ccnacccttt	annncccaac	ctttngggcc	cccccnctnc	720
ccnaatgaag	gncncccaat	cnangaaacg	nccntgaaaa	ancnaggcna	anannntccg	780
canatcctat	cccttanttn	ggggnccttt	nccnggggcc	cc		822

<210> 30

<211> 787

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(787)
 <223> n = A,T,C or G

<400> 30

cggccgcctg	ctctggcaca	tgcctcctga	atggcatcaa	aagtgatgga	ctgcccattg	60
ctagagaaga	ccttctctcc	tactgtcatt	atggagccct	gcagactgag	ggctcccctt	120
gtctgcagga	tttgatgtct	gaagtcgtgg	agtgtggctt	ggagctcctc	atctacatna	180
gctggaagcc	ctggagggcc	tctctcgcca	gcctccccct	tctctccacg	ctctccangg	240
acaccagggg	ctccaggcag	cccattattc	ccagnangac	atggtgtttc	tccacgcgga	300
cccattgggg	ctgnaaggcc	agggtctcct	ttgacaccat	ctctcccgtc	ctgcctggca	360
ggccgtggga	tccactantt	ctanaacggn	cgccaccncg	gtgggagctc	cagcttttgt	420
ttccnttaat	gaaggttaat	tgcncgcttg	gcgtaatcat	nggtcanaac	tntttcctgt	480
gtgaaattgt	ttntccccctc	ncnattccnc	ncnacatacn	aacccggaan	cataaagtgt	540
taaagcctgg	gggtngcctn	nngaattnaac	tnaactcaat	taattgctgt	ggctcatggc	600
ccgctttccn	ttcnggaaaa	ctgtcntccc	ctgcnttntt	gaatcggcca	ccccccnggg	660
aaaagcggtt	tgcnttttng	ggggntcctt	ccntctcccc	cctcncctaan	ccctnccgct	720
cggtcgttnc	nggtngcggg	gaangggnat	nnnctccenc	naagggggng	agnnngntat	780
ccccaaa						787

<210> 31
 <211> 799
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(799)
 <223> n = A,T,C or G

<400> 31

tttttttttt	tttttttggc	gatgctactg	tttaattgca	ggaggtgggg	gtgtgtgtac	60
catgtaccag	ggctattaga	agcaagaagg	aaggagggag	ggcagagcgc	cctgctgagc	120
aacaaaggac	tcctgcagcc	ttctctgtct	gtctcttggc	gcaggcacat	ggggaggcct	180
cccgcagggg	ggggggccacc	agtccagggg	tgggagcact	acanggggtg	ggagtgggtg	240
gtggctggtn	cnaatggcct	gncacanatc	cctacgatcc	ttgacacctg	gatttcacca	300
ggggaccttc	tgttctccca	nggnaacttc	ntnnatctcn	aaagaacaca	actgtttctt	360
cngcanttct	ggctgttcat	ggaaagcaca	ggtgtccnat	ttnggctggg	acttgggtaca	420
tatggttccg	gcccacctct	cccntcnaan	aagtaattca	cccccccccn	ccntctnttg	480
cctgggcccct	taantaccca	caccggaact	canttantta	ttcatcttng	gntgggcttg	540
ntnatcncn	cctgaangcg	ccaagttgaa	aggccacgcc	gtncnccnctc	cccatagnan	600
nttttnncnt	canctaattg	ccccccnggc	aacnatccaa	tcccccccn	tgggggcccc	660
agcccanggc	ccccgnctcg	ggnnnccngn	cncgnantcc	ccaggntctc	ccantcngnc	720
ccnnngcncc	cccgcacgca	gaacanaagg	ntngagccnc	cgcannnnnn	nggtnnncnac	780
ctcgcccccc	ccnnegng					799

<210> 32
 <211> 789
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(789)
 <223> n = A,T,C or G

<400> 32

tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	60
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	120
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	180
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	240
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	300
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	360
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	420
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	480
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	540
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	600
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	660
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	720
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	780
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	789

<210> 33

<211> 793

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(793)

<223> n = A,T,C or G

<400> 33

gacagaacat	gttggtggt	ggagcacctt	tctatacgac	ttacaggaca	gcagatgggg	60
aattcatggc	tggttgagca	atanaacccc	agttctacga	gctgctgac	aaaggacttg	120
gactaaagtc	tgatgaactt	cccaatcaga	tgagcatgga	tgattggcca	gaaatgaana	180
agaagtttgc	agatgtattt	gcaaaagaaga	cgaaggcaga	gtggtgtcaa	atctttgacg	240
gcacagatgc	ctgtgtgact	ccggttctga	cttttgagga	ggttggttcat	catgatcaca	300
acaangaacg	gggctcggtt	atcaccantg	aggagcagga	cgtgagcccc	cgccctgcac	360
ctctgctggt	aaacacccca	gccatccctt	ctttcaaaag	ggatccacta	cttctagagc	420
ggncgccacc	gcggtggagc	tccagctttt	gttcccttta	gtgaggggta	attgcgcgct	480
tggcgtaatc	atggtcatan	ctgtttcctg	tgtgaaattg	ttatccgctc	acaattccac	540
acaacatacg	anccggaagc	atnaaatttt	aaagcctggn	ggtngcctaa	tgantgaact	600
nactcacatt	aattggcttt	gcgctcactg	cccgttttcc	agtccggaaa	acctgtcctt	660
gccagctgcc	nttaatgaat	cnggccaccc	cccggggaaa	aggcngtttg	cttnttgggg	720
cgcncctccc	gctttctcgc	ttcctgaant	ccttccccc	ggtctttcgg	cttgcggcna	780
acggtatcna	cct					793

<210> 34

<211> 756

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(756)

<223> n = A,T,C or G

<400> 34

gccgcgaccg	gcatgtacga	gcaactcaag	ggcgagtgga	accgtaaaag	ccccaatctt	60
ancaagtgcg	gggaanagct	gggtcgactc	aagctagtgc	ttctggagct	caacttcttg	120

```

ccaaccacag ggaccaagct gaccaaacag cagctaattc tggcccgtga catactggag      180
atcggggccc aatggagcat cctacgcaan gacatcccct ccttcgagcg ctacatggcc      240
cagctcaaat gctactactt tgattacaan gagcagctcc ccgagtcagc ctatatgcac      300
cagctcttgg gcctcaacct cctcttctctg ctgtcccaga accgggtggc tgantnccac      360
acgganttgg ancggctgcc tgcccaanga catacanacc aatgtctaca tcnaccacca      420
gtgtcctgga gcaatactga tgganggcag ctaccncaaa gtnttcctgg ccnagggtaa      480
catcccccg cagagagctac accttcttca ttgacatcct gctcgacact atcagggatg      540
aaaatcgcn ggttgctcca gaaaggctnc aanaanatcc ttttcnctga aggcccccg      600
atncnctagt nctagaatcg gcccgccatc gcggtgganc ctccaacctt tcgttncct      660
ttactgaggg ttnattgccg cccttggcgt tatcatggtc acncnngtn cctgtgttga      720
aattnttaac cccccacaat tccacgccna cattng      756

```

<210> 35

<211> 834

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(834)

<223> n = A,T,C or G

<400> 35

```

ggggatctct anactnacct gnatgcatgg ttgtcggtgt ggtcgctgtc gatgaanatg      60
aacaggatct tgcccttgaa gctctcggtt gctgtnttta agttgctcag tctgccgtca      120
tagtcagaca cncctcttggg caaaaaacan caggatntga gtcttgattt cacctccaat      180
aatcttcnng gctgtctgct cggatgaact gatgacnang ggcagctggt tgtgtntgat      240
aaantccanc angttctcct tggatgacct cccttcaaag ttgttcggc cttcatcaaa      300
cttctnnaan angannancc canctttgtc gagctggnat ttgganaaca cgtcaccgtt      360
ggaaactgat cccaaatggt atgtcatcca tcgctctgct tgccgtgcaa aaacttgctt      420
ggcncaaact cgactcccn tccttgaaag aagccnatca cccccctc cctggactcc      480
nncaangact ctncgcctnc ccntccnng cagggttggg ggcanncgg gccntgcgc      540
ttcttcagcc agttcacnat nttcatcagc ccctctgcca gctgtntat tccttggggg      600
ggaanccgtc tctcccttcc tgaannaact ttgaccgtng gaatagccgc gcntcncnt      660
acntnctggg ccgggttcaa antccctccn ttgncnntcn cctcgggcca ttctggattt      720
nccnaacttt tctcttcccc cncnccnng ngtttggntt tttcatnggg ccccaactct      780
gctnttggcc antcccttgg gggcntntan cncnccntnt ggteccntng ggcc      834

```

<210> 36

<211> 814

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(814)

<223> n = A,T,C or G

<400> 36

```

cggncgcttt cngccgcgc ccggtttcca tgacnaaggc tcccttcang ttaaatacnn      60
cctagnaaac attaatgggt tgctctacta atacatcata cnaaccagta agcctgccca      120
naacgccaac tcaggccatt cctaccaaag gaagaaaggc tggctctctc acccctgta      180
ggaaaggcct gccttgtaag acaccacaat ncggctgaat ctnaagtctt gtgttttact      240
aatggaaaaa aaaaataaac aanagggttt gtctctatgg ctgccaccg cagcctggca      300
ctaaaacanc ccagcgctca cttctgcttg ganaaatatt ctttgcctt ttggacatca      360

```

```

ggcttgatgg tatcactgcc acntttccac ccagctgggc ncccttcccc catntttgtc      420
antganctgg aaggcctgaa ncttagtctc caaaagtctc ngcccacaag accggccacc      480
aggggangtc ntttncagtg gatctgccaa anantaccn tatcatcnnt gaataaaaag      540
gcccctgaac ganatgcttc cancancctt taagacccat aatcctngaa ccatggtgcc      600
cttccggtct gatccnaaag gaatgttctt ggggtccant cctcctttg ttncctacgt      660
tgtnttggac ccntgctngn atnaccaan tganatcccc ngaagcacc tccccctggc      720
atttganttt cntaaattct ctgcctacn nctgaaagca cnattccctn ggcncnnaan      780
ggngaactca agaaggtctn ngaaaaacca cncn                                     814

```

```

<210> 37
<211> 760
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(760)
<223> n = A,T,C or G

```

```

<400> 37
gcatgctgct cttcctcaaa gttgttcttg ttgccataac aaccaccata ggtaaagcgg      60
gcgcagtgtt cgctgaaggg gttgtagtac cagcgcgggg tgctctcctt gcagagtctt      120
gtgtctggca ggtccacgca atgccctttg tactggggga aatggatgcg ctggagctcg      180
tcnaanccac tcgtgtatctt ttacangca gcctcctccg aagcntccgg gcagttgggg      240
gtgtcgtcac actccactaa actgtcgatn cancagccca ttgctgcagc ggaactgggt      300
gggctgacag gtgccagaac aactggatn ggcttttcca tgggaagggcc tgggggaaat      360
cncctnancc caaactgcct ctcaaaggcc accttgcaca ccccgacagg ctagaaatgc      420
actcttcttc ccaaaggtag ttgttcttgt tgcccaagca ncctccanca aacccaaanc      480
ttgcaaaatc tgctccgtgg gggtcatnnn taccanggtt ggggaaanaa acccggcngn      540
gancncctt gtttgaatgc naaggnaata atcctcctgt cttgcttggg tggaaanagca      600
caattgaact gttaacnttg ggccnggttc cctnnggggtg gtctgaaact aatcaccgtc      660
actggaaaaa ggtangtgcc ttcttgaat tcccaantt cccctngntt tgggtntttt      720
ctcctctncc ctaaaaatcg tnttcccccc cnttangggc                                     760

```

```

<210> 38
<211> 724
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(724)
<223> n = A,T,C or G

```

```

<400> 38
tttttttttt tttttttttt tttttttttt tttttaaaaa cccctcccat tgaatgaaaa      60
cttccnaaat tgtccaaccc cctcnnccaa atnnccattt cggggggggg gttccaaacc      120
caaattaatt ttgganttta aattaaatnt tnatnngggg aanaanccaa atgtnaagaa      180
aatttaaccc attatnaact taaatncctn gaaaccntg gnttccaaaa atttttaacc      240
cttaaatccc tccgaaattg ntaanggaaa accaaattcn cctaaggctn tttgaaggtt      300
ngatttaaac ccccttnant tnttttnacc cnnngctnaa ntatttngnt tccggtgttt      360
tcctnttaan cntnggtaac tcccgntaat gaannncctt aanccaatta aaccgaattt      420
tttttgaatt ggaaattccn ngggaattna cgggggtttt tccnttttgg gggccatncc      480
ccncttttgc ggggtttggg ntaggttgaa ttttttnang nccccaaaaa ncccccaana      540
aaaaaactcc caagnnttaa ttngaanttc ccccttccca ggccttttgg gaaaggnggg      600

```

tttntggggg	ccngggantt	cnttcccccn	ttncnccccc	ccccccnggt	aaanggttat	660
ngnnttttgg	ttttgggccc	cttnanggac	cttccggatn	gaaattaaat	ccccgggnccg	720
gccg						724

<210> 39
 <211> 751
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(751)
 <223> n = A,T,C or G

<400> 39						
tttttttttt	tttttctttg	ctcacattta	atttttatnt	tgattttttt	taatgctgca	60
caacacaata	tttatttcat	ttgtttcttt	tatttcattt	tatttgtttg	ctgctgctgt	120
tttattttat	tttactgaaa	gtgagaggga	acttttgtgg	ccttttttcc	tttttctgta	180
ggccgcctta	agcttttctaa	atrtggaaaca	tctaagcaag	ctgaanggaa	aaggggggtt	240
cgcaaaatca	ctcgggggaa	nggaaaggtt	gctttgttaa	tcatgcccta	tggtgggtga	300
ttaactgctt	gtacaattac	ntttcacttt	taattaattg	tgctnaangc	tttaattana	360
cttggggggt	ccctccccc	accaaccccn	ctgacaaaaa	gtgccngccc	tcaaatnatg	420
tccccgcntt	cnttgaaaca	caengcngaa	ngttctcatt	ntccccncnc	caggtnaaaa	480
tgaagggtta	ccatntttta	cncacctcc	acntggcnnn	gcctgaatcc	tcnaaaancn	540
ccctcaancn	aattnctnng	ccccgggtcnc	gcntnngtcc	cnccccgggt	ccgggaantn	600
cacccccnga	anncnntnnc	naacnaaatt	ccgaaaatat	tcccnntcnc	tcaattcccc	660
cnnagactnt	cctcnnncn	cncaattttc	ttttnttcac	gaacncgnnc	cnnaaaatgn	720
nnnnncctc	cnctngtccn	naatcnccan	c			751

<210> 40
 <211> 753
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(753)
 <223> n = A,T,C or G

<400> 40						
gtgggtatnt	ctgtaagatc	aggtgttcct	ccctcgtagg	tttagaggaa	acaccctcat	60
agatgaaaac	ccccccgaga	cagcagcact	gcaactgcca	agcagccggg	gtaggagggg	120
cgccctatgc	acagctgggc	ccttgagaca	gcagggtctc	gatgtcaggc	tcgatgtcaa	180
tggtctggaa	gcggcggtct	tacctgcgta	ggggcacacc	gtcagggccc	accaggaact	240
tctcaaagtt	ccaggcaacn	tcgttgcgac	acaccggaga	ccagggtgatn	agcttgggggt	300
cggtcataan	cgcggtggcg	tcgtcgtctg	gagctggcag	ggcctcccg	aggaaggcna	360
ataaaaggtg	cgcccccgca	ccgttcanct	cgcacttctc	naanaccatg	angttgggct	420
cnaaccacc	accannccgg	acttccttga	nggaattccc	aaatctcttc	gntcttgggc	480
ttctnctgat	gccctanctg	gttgcccnng	atgccaanca	nccccanc	ccggggtcct	540
aaancaccn	cctcctcntt	tcatctgggt	tntntcccc	ggacctgggt	tcctctcaag	600
ggancccata	tctcnaccan	tactcacnt	ncccccent	gnnaccanc	cttctanngn	660
ttccncccc	ncctctggcc	cntcaaan	gcttnacna	cctgggtctg	ccttcccccc	720
tncctatct	gnaccccn	tttgtctcan	tnt			753

<210> 41

<211> 341
 <212> DNA
 <213> Homo sapien

<400> 41
 actatatcca tcacaacaga catgcttcat cccatagact tcttgacata gcttcaaagt 60
 agtgaaccca tccttgattt atatacatat atgttctcag tattttggga gcctttccac 120
 ttctttaaac cttgttcatt atgaacactg aaaataggaa tttgtgaaga gttaaaaagt 180
 tatagcttgt ttacgtagta agtttttgaa gtctacattc aatccagaca cttagttgag 240
 tgttaaactg tgatttttaa aaaatatcat ttgagaatat tctttcagag gtattttcat 300
 ttttactttt tgattaattg tgttttatat attagggtag t 341

<210> 42
 <211> 101
 <212> DNA
 <213> Homo sapien

<400> 42
 acttactgaa tttagtctg tgctcttcct tatttagtgt tgtatcataa atactttgat 60
 gtttcaaaca ttctaaataa ataattttca gtgggttcat a 101

<210> 43
 <211> 305
 <212> DNA
 <213> Homo sapien

<400> 43
 acatctttgt tacagtctaa gatgtgttct taaatcacca ttccttctctg gtcctcaccc 60
 tccagggtgg tctcacactg taattagagc tattgaggag tctttacagc aaattaagat 120
 tcagatgcct tgctaagtct agagttctag agttatgttt cagaaagtct aagaaaccca 180
 cctcttgaga ggtcagtaaa gaggacttaa tatttcatat ctacaaaatg accacaggat 240
 tggatacaga acgagagtta tcttgataa ctcagagctg agtacctgcc cggggggccgc 300
 tcgaa 305

<210> 44
 <211> 852
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (852)
 <223> n = A,T,C or G

<400> 44
 acataaatat cagagaaaag tagtctttga aatattttacg tccaggagtt ctttgtttct 60
 gattatttgg tgtgtgtttt ggtttgtgtc caaagtattg gcagcttcag ttttcatttt 120
 ctctccatcc tcgggcattc ttcccaaatt tatataccag tcttcgtcca tccacacgct 180
 ccagaatttc tctttttag taatatctca tagctcggct gagcttttca taggtcatgc 240
 tgctgttgtt cttcttttta ccccatagct gagccactgc ctctgatttc aagaacctga 300
 agacgccctc agatcggtct tcccatttta ttaatcctgg gttcttgtct gggttcaaga 360
 ggatgtcgcg gatgaattcc cataagttag tccctctcgg gttgtgcttt ttgggtgtggc 420
 acttggcagg ggggtcttgc tcttttttca tatcagggtga ctctgcaaca ggaagggtgac 480
 tggtggttgt catggagatc tgagcccggc agaaagtgtt gctgtccaac aaatctactg 540
 tgctaccata gttggtgtca tataaatagt tctngtcttt ccagggtgtt atgatggaag 600

gctcagtttg	ttcagtcctg	acaatgacat	tgtgtgtgga	ctggaacagg	tcactactgc	660
actggccgtt	ccacttcaga	tgctgcaagt	tgctgtagag	gagntgcccc	gccgtccctg	720
ccgcccgggt	gaactcctgc	aaactcatgc	tgcaaagggt	ctcgccgttg	atgtcgaact	780
cntggaaagg	gatacaattg	gcatccagct	ggttggtgtc	caggaggtga	tggagccact	840
cccacacctg	gt					852

<210> 45
 <211> 234
 <212> DNA
 <213> Homo sapien

<400> 45						
acaacagacc	cttgctcgct	aacgacctca	tgtcatcaa	gttggacgaa	tccgtgtccg	60
agtctgacac	catccggagc	atcagcattg	cttcgcagtg	ccctaccgcg	gggaactctt	120
gcctcgtttc	tggctggggg	ctgctggcga	acggcagaat	gcctaccgtg	ctgcagtgcg	180
tgaacgtgtc	ggtggtgtct	gaggaggtct	gcagtaagct	ctatgacccg	ctgt	234

<210> 46
 <211> 590
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (590)
 <223> n = A,T,C or G

<400> 46						
actttttatt	taaatgttta	taaggcagat	ctatgagaat	gatagaaaac	atggtgtgta	60
atttgatagc	aatatatttg	agattacaga	gttttagtaa	ttaccaatta	cacagttaaa	120
aagaagataa	tatattccaa	gcanatacaa	aatatcta	gaaagatcaa	ggcaggaaaa	180
tgantataac	taattgacaa	tggaaaatca	attttaatgt	gaattgcaca	ttatccttta	240
aaagctttca	aaanaanaa	ttattgcagt	ctanttaatt	caaacagtgt	taaatggtat	300
caggataaan	aactgaagg	canaaaaga	taattttcac	ttcatgtaac	ncacccanat	360
ttacaatggc	ttaaatgcan	ggaaaaagca	gtggaagtag	ggaagtantc	aaggctcttc	420
tggctctctaa	tctgccttac	tctttgggtg	tggctttgat	cctctggaga	cagctgccag	480
ggctcctggt	atatccacaa	tcccagcagc	aagatgaagg	gatgaaaaag	gacacatgct	540
gccttccttt	gaggagactt	catctcactg	gccaacactc	agtcacatgt		590

<210> 47
 <211> 774
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (774)
 <223> n = A,T,C or G

<400> 47						
acaagggggc	ataatgaagg	agtggggana	gatttttaaag	aaggaaaaaa	aacgaggccc	60
tgaacagaat	tttcctgnac	aacggggcct	caaaaataatt	ttcttgggga	ggttcaagac	120
gcttactgc	ttgaaactta	aatggatgtg	ggacanaatt	ttctgtaatg	accctgaggg	180
cattacagac	gggactctgg	gaggaaggat	aaacagaaaag	gggacaaaag	ctaaccctaa	240
aacatcaaag	aaaggaagg	ggcgtcatat	ctcccagcct	acacagttct	ccagggtctt	300

```

cctcatccct ggaggacgac agtggaggaa caactgacca tgtccccagg ctctgtgtg      360
ctggctcctg gtcttcagcc cccagctctg gaagcccacc ctctgctgat cctgcgtggc      420
ccacactcct tgaacacaca tccccagggt atattcctgg acatggctga acctcctatt      480
cctacttccg agatgccttg ctccctgcag cctgtcaaaa tccctcac cctccaaacc      540
acggcatggg aagcctttct gacttgctg attactccag catcttgga caatccctga      600
ttccccactc cttagaggca agataggggt gttaagagta gggctggacc acttgagacc      660
aggctgctgg cttcaaattn tggctcattt acgagctatg ggaccttggg caagtnatct      720
tcacttctat gggcntcatt ttgttctacc tgcaaaatgg gggataataa tagt          774

```

<210> 48

<211> 124

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(124)

<223> n = A,T,C or G

<400> 48

```

canaaattga aattttataa aaaggcattt ttctcttata tccataaaat gatataattt      60
ttgcaantat anaaatgtgt cataaattat aatgttcctt aattacagct caacgcaact      120
tggt                                              124

```

<210> 49

<211> 147

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(147)

<223> n = A,T,C or G

<400> 49

```

gccgatgcta ctattttatt gcaggagggt ggggtgtttt tattattctc tcaacagctt      60
tgtggctaca ggtgggtgtc gactgcatna aaaanttttt tacgggtgat tgcaaaaatt      120
ttagggcacc catatcccaa gcantgt                                              147

```

<210> 50

<211> 107

<212> DNA

<213> Homo sapien

<400> 50

```

acattaaatt aataaaagga ctgttgggggt tctgctaaaa cacatggctt gatatatgtc      60
atgggttgag gttaggagga gttaggcata tgttttggga gaggggt                      107

```

<210> 51

<211> 204

<212> DNA

<213> Homo sapien

<400> 51

```

gtcctaggaa gtctagggga cacacgactc tggggtcacg gggccgacac acttgcacgg      60

```

cggaaggaa aggcagagaa gtgacaccgt caggggggaaa tgacagaaag gaaaatcaag	120
gccttgcaag gtcagaaaagg ggactcaggg cttccaccac agccctgccc cacttggcca	180
cctccctttt gggaccagca atgt	204

<210> 52
 <211> 491
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(491)
 <223> n = A,T,C or G

<400> 52	
acaaagataa catttatctt ataacaaaaa tttgatagtt tttaaaggta gtattgtgta	60
gggtattttt caaaagacta aagagataac tcaggtaaaa agttagaaat gtataaaaca	120
ccatcagaca gggtttttaa aaacaacata ttacaaaatt agacaatcat ccttaaaaaa	180
aaaacttctt gtatcaattt cttttgttca aaatgactga cttaantatt tttaaatatt	240
tcanaaacac ttccctcaaaa attttcaana tggtagcttt canatgtncc ctcagtccca	300
atgttgctca gataaataaa tctcgtgaga acttaccacc caccacaagc tttctggggc	360
atgcaacagt gtcttttctt tnccttttct tttttttttt ttacaggcac agaaactcat	420
caattttatt tggataacaa agggctctca aattatattg aaaaataaat ccaagttaat	480
atcactcttg t	491

<210> 53
 <211> 484
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(484)
 <223> n = A,T,C or G

<400> 53	
acataattta gcagggctaa ttaccataag atgctattta ttaanaggtn tatgatctga	60
gtattaacag ttgctgaagt ttgggtatttt tatgcagcat tttctttttg ctttgataac	120
actacagaac ccttaaggac actgaaaatt agtaagtaaa gttcagaaac attagctgct	180
caatcaaate tctacataac actatagtaa ttaaaacgtt aaaaaaaagt gttgaaatct	240
gcactagtat anaccgctcc tgtcaggata anactgcttt ggaacagaaa gggaaaaanc	300
agctttgant ttctttgtgc tgatangagg aaaggctgaa ttaccttggt gcctctccct	360
aatgattggc aggtcnggta aatnccaaaa catattccaa ctcaacactt cttttccncg	420
tancttgant ctgtgtattc caggancagg cggatggaat gggccagccc ncggatgttc	480
cant	484

<210> 54
 <211> 151
 <212> DNA
 <213> Homo sapien

<400> 54	
actaaacctc gtgcttgtga actccatata gaaaacgggt ccateccctga acacgggctgg	60
ccactgggta tactgctgac aaccgcaaca acaaaaacac aaatccttgg cactgggctag	120
tctatgtcct ctcaagtgcc tttttgtttg t	151

<210> 55
 <211> 91
 <212> DNA
 <213> Homo sapien

<400> 55
 acctggcttg tctccgggtg gttcccggcg cccccacgg tccccagaac ggacactttc 60
 gccctccagt ggatactcga gccaaagtgg t 91

<210> 56
 <211> 133
 <212> DNA
 <213> Homo sapien

<400> 56
 ggcggatgtg cgttggttat atacaaatat gtcattttat gtaagggact tgagtatact 60
 tggatttttg gtatctgtgg gttgggggga cgggccagga accaataccc catggatacc 120
 aagggacaac tgt 133

<210> 57
 <211> 147
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(147)
 <223> n = A,T,C or G

<400> 57
 actctggaga acctgagccg ctgctccgcc tctgggatga ggtgatgcan gcngtggegc 60
 gactgggagc tgagcccttc cctttgcgcc tgccctcagag gattgttgcc gacntgcana 120
 tctcantggg ctggatncat gcagggt 147

<210> 58
 <211> 198
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(198)
 <223> n = A,T,C or G

<400> 58
 acagggatat aggtttnaag ttattgtnat tgtaaaatac attgaatttt ctgtatactc 60
 tgattacata catttatcct ttaaaaaaga tgtaaactctt aatttttatg ccatctatta 120
 atttaccat gagttacctt gtaaatagaga agtcatgata gcactgaatt ttaactagtt 180
 ttgacttcta agtttggt 198

<210> 59
 <211> 330
 <212> DNA
 <213> Homo sapien

<400> 59

acaacaaatg gggtgtgagg aagtcttata agcaaaactg gtgatggcta ctgaaaagat	60
ccattgaaaa ttatcattaa tgattttaaa tgacaagtta tcaaaaactc actcaatttt	120
cacctgtgct agcttgctaa aatgggagtt aactctagag caaatatagt atcttctgaa	180
tacagtcaat aaatgacaaa gccagggcct acaggtgggt tccagacttt ccagaccag	240
cagaaggaat ctattttatc acatggatct ccgtctgtgc tcaaaatacc taatgatatt	300
tttcgtcttt attggacttc tttgaagagt	330

<210> 60

<211> 175

<212> DNA

<213> Homo sapien

<400> 60

accgtgggtg ccttctacat tcctgacggc tccttcacca acatctgggt ctacttcggc	60
gtcgtgggtc ccttctctt catcctcatc cagctgggtg tgctcatcga ctttgcgcac	120
tcctggaacc agcgggtggc gggcaaggcc gaggagtgcg attcccgtgc ctggc	175

<210> 61

<211> 154

<212> DNA

<213> Homo sapien

<400> 61

accccacttt tcctcctgtg agcagtctgg acttctcact gctacatgat gaggggtgagt	60
ggttgttgct cttcaacagt atcctcccct ttccggatct gctgagccgg acagcagtgc	120
tggactgcac agccccgggg ctccacattg ctgt	154

<210> 62

<211> 30

<212> DNA

<213> Homo sapien

<400> 62

cgctcgagcc ctatagttag tegtattaga	30
----------------------------------	----

<210> 63

<211> 89

<212> DNA

<213> Homo sapien

<400> 63

acaagtcatt tcagcaccct ttgtctttca aaactgacca tcttttatat ttaatgcttc	60
ctgtatgaat aaaaatgggt atgtcaagt	89

<210> 64

<211> 97

<212> DNA

<213> Homo sapien

<400> 64

accggagtaa ctgagtcggg acgtgaatc tgaatccacc aataaataaa gggtctgcag	60
aatcagtgca tccaggattg gtccttggat ctggggg	97

<210> 65
 <211> 377
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(377)
 <223> n = A,T,C or G

<400> 65
 acaacaanaa ntcccttctt taggccactg atggaaacct ggaacccccct tttgatggca 60
 gcatggcgctc ctaggcccttg acacagcggc tgggggtttgg gctntcccaa accgcacacc 120
 ccaaccctgg tctaccacaca nttctggcta tgggctgtct ctgccactga acatcagggt 180
 tcggtcataa natgaaatcc caanggggac agaggctcagt agaggaagct caatgagaaa 240
 ggtgctgttt gctcagccag aaaacagctg cctggcattc gccgctgaac tatgaacccg 300
 tgggggtgaa ctaccccan gaggaatcat gcctgggcga tgcaanggtg ccaacaggag 360
 gggcgggagg agcatgt 377

<210> 66
 <211> 305
 <212> DNA
 <213> Homo sapien

<400> 66
 acgcctttcc ctcagaattc agggaagaga ctgtcgctg ccttcctccg ttgttgcggtg 60
 agaaccctgt tgcccttcc caccatatcc accctcgctc catctttgaa ctcaaacacg 120
 aggaactaac tgcaccctgg tcctctcccc agtccccagt tcaccctcca tccctcacct 180
 tcctccactc taagggatat caacactgcc cagcacaggg gccctgaatt tatgtgggtt 240
 ttatatattt ttttaataaga tgcactttat gtcatttttt aataaagtct gaagaattac 300
 tgttt 305

<210> 67
 <211> 385
 <212> DNA
 <213> Homo sapien

<400> 67
 actacacaca ctccacttgc ctttgtgaga cactttgtcc cagcacttta ggaatgctga 60
 ggtcggacca gccacatctc atgtgcaaga ttgcccagca gacatcaggt ctgagagttc 120
 cccttttaaa aaaggggact tgcttaaaaa agaagtctag ccacgattgt gtagagcagc 180
 tgtgctgtgc tggagattca cttttgagag agttctcctc tgagacctga tctttagagg 240
 ctgggcagtc ttgcacatga gatggggctg gtctgatctc agcactcctt agtctgcttg 300
 cctctcccag ggccccagcc tggccacacc tgcttacagg gcactctcag atgcccatac 360
 catagtttct gtgctagtgg accgt 385

<210> 68
 <211> 73
 <212> DNA
 <213> Homo sapien

<400> 68
 acttaaccag atatattttt accccagatg gggatattct ttgtaaaaaa tgaaaataaa 60
 gtttttttaa tgg 73

<210> 69
 <211> 536
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(536)
 <223> n = A,T,C or G

<400> 69
 actagtccag tgtggtggaa ttccattgtg ttgggggctc tcaccctcct ctctgcagc 60
 tccagctttg tgctctgcct ctgaggagac catggcccag catctgagta cctgctgct 120
 cctgctggcc accctagctg tggccctggc ctggagcccc aaggaggagg ataggataat 180
 cccgggtggc atctataacg cagacctcaa tgatgagtgg gtacagcgtg cccttcactt 240
 cgccatcagc gagtataaca aggccaccaa agatgactac tacagacgtc cgctgcgggt 300
 actaagagcc aggcaacaga ccgttggggg ggtgaattac ttcttcgacg tagaggtggg 360
 ccgaaccata tgtaccaagt cccagcccaa cttggacacc tgtgccttcc atgaacagcc 420
 agaactgcag aagaaacagt tgtgctcttt cgagatctac gaagtccct ggggagaaca 480
 gaangtccct gggtgaaatc caggtgtcaa gaaatcctan ggatctgttg ccaggc 536

<210> 70
 <211> 477
 <212> DNA
 <213> Homo sapien

<400> 70
 atgaccccta acagggggccc tctcagccct cctaattgacc tccggcctag ccattgtgatt 60
 tcaattccac tccataacgc tctcataact aggcctacta accaacacac taaccatata 120
 ccaatgatgg cgcgatgtaa cagagaaaag cacataccaa ggccaccaca caccacctgt 180
 ccaaaaaggc cttcgatacg ggataatcct atttattacc tcagaagttt ttttcttcgc 240
 agggattttt ctgagccttt taccactcca gcctagcccc taccacccaa ctaggagggc 300
 actggccccc aacaggcatc accccgctaa atcccttaga agtcccactc ctaaacacat 360
 ccgtattact cgcatcagga gtatcaatca cctgagctca ccatagtcta atagaaaaca 420
 accgaaacca aattattcaa agcactgctt attacaattt tactgggtct ctatttt 477

<210> 71
 <211> 533
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(533)
 <223> n = A,T,C or G

<400> 71
 agagctatag gtacagtgtg atctcagctt tgcaaacaca ttttctacat agatagtact 60
 aggtattaat agatatgtaa agaaagaaat cacaccatta ataatggtaa gattgggtta 120
 tgtgatttta gtgggtatttt tggcaccctt atatatgttt tccaaacttt cagcagtgat 180
 attatttcca taacttaaaa agtgagtttg aaaaagaaaa tctccagcaa gcatctcatt 240
 taaataaagg tttgtcatct ttaaaaatac agcaatatgt gactttttta aaaagctgtc 300
 aaataggtgt gaccctacta ataattatta gaaatacatt taaaaacatc gagtacctca 360
 agtcagtttg ccttgaaaaa tatcaaatat aactcttaga gaaatgtaca taaaagaatg 420
 cttcgtaatt ttggagtang aggttccctc ctcaattttg tattttttaa aagtacatgg 480
 taaaaaaaaa aattcacaac agtatataag gctgtaaaat gaagaattct gcc 533

<210> 72
 <211> 511
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(511)
 <223> n = A,T,C or G

<400> 72
 tattacggaa aaacacacca cataattcaa ctancaaaga anactgcttc agggcgtgta 60
 aaatgaaagg cttccaggca gttatctgat taaagaacac taaaagaggg acaaggctaa 120
 aagccgcagg atgtctacac tatancaggc gctatctggg ttggctggag gagctgtgga 180
 aaacatggan agattggtgc tgganacgc cgtggctatt cctcattgtt attacanagt 240
 gaggttctct gtgtgcccac tggtttga aaaccgtctnc aataatgata gaatagtaca 300
 cacatgagaa ctgaaatggc ccaaaccag aaagaaagcc caactagatc ctcagaanac 360
 gcttctaggg acaataaccg atgaagaaaa gatggcctcc ttgtgcccc gtctgttatg 420
 atttctctcc attgcagcna naaacccgtt cttctaagca aacncagggtg atgatggcna 480
 aaatacaccc cctcttgaag naccnggagg a 511

<210> 73
 <211> 499
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(499)
 <223> n = A,T,C or G

<400> 73
 cagtgccagc actggtgcc a gtaccagtag caataacagt gccagtgcc gtgccagcac 60
 cagtgggtggc ttcagtgtg gtgccagcct gaccgccact ctcacatttg ggctcttcgc 120
 tggccttggt ggagctggt ccagcaccag tggcagctct ggtgcctgtg gtttctccta 180
 caagtgagat tttagatatt gttaatcctg ccagtccttc tcttcaagcc aggggtgcac 240
 ctcagaaacc tactcaacac agcactctag gcagccacta tcaatcaatt gaagttgaca 300
 ctctgcatta aatctatttg ccatttctga aaaaaaaaaa aaaaaaagg cggccgctcg 360
 antctagagg gcccggttaa acccgctgat cagcctcgac tgtgccttct anttgccagc 420
 catctgttgt ttgcccctcc cccgntgcct tccttgacct tggaaagtgc cactcccact 480
 gtcctttcct aantaaaat 499

<210> 74
 <211> 537
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(537)
 <223> n = A,T,C or G

<400> 74
 tttcatagga gaacacactg aggagatact tgaagaattt ggattcagcc gcgaagagat 60

ttatcagctt	aactcagata	aaatcattga	aagtaataag	gtaaaagcta	gtctctaact	120
tccaggccca	cggctcaagt	gaatttgaat	actgcattta	cagtgtagag	taacacataa	180
cattgtatgc	atggaaacat	ggaggaacag	tattacagtg	tcctaccact	ctaatacaaga	240
aaagaattac	agactctgat	tctacagtga	tgattgaatt	ctaaaaatgg	taatcattag	300
ggcttttgat	ttataanact	ttgggtactt	atactaaatt	atggtagtta	tactgccttc	360
cagtttgctt	gatataattg	ttgatattaa	gattcttgac	ttatattttg	aatgggttct	420
actgaaaaan	gaatgatata	ttcttgaaga	catcgatata	cattttattta	cactcttgat	480
tctacaatgt	agaaaatgaa	ggaaatgccc	caaattgtat	ggtgataaaa	gtcccgct	537

<210> 75

<211> 467

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(467)

<223> n = A,T,C or G

<400> 75

caaanacaat	tggtcaaaag	atgcaaata	tacactactg	ctgcagctca	caaacacctc	60
tgcatattac	acgtacctcc	tcctgctcct	caagtagtgt	ggctctatctt	gccatcatca	120
cctgctgtct	gcttagaaga	acggctttct	gctgcaangg	agagaaatca	taacagacgg	180
tggcacaagg	aggccatctt	ttcctcatcg	gttattgtcc	ctagaagcgt	cttctgagga	240
tctagtggg	ctttctttct	gggtttgggc	catttcantt	ctcatgtgtg	tactattcta	300
tcattattgt	ataacgggtt	tcaaaccngt	gggcacncag	agaacctcac	tctgtaataa	360
caatgaggaa	tagccacggg	gatctccagc	accaaattct	tccatgttnt	tccagagctc	420
ctccagccaa	cccaaatagc	cgtgctatn	gtgtagaaca	tccttgn		467

<210> 76

<211> 400

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(400)

<223> n = A,T,C or G

<400> 76

aagctgacag	cattcggggc	gagatgtctc	gctccgtggc	cttagctgtg	ctcgcgctac	60
tctctctttc	tggcctggag	gctatccagc	gtactccaaa	gattcaggtt	tactcacgtc	120
atccagcaga	gaatggaaa	tcaaatttcc	tgaattgcta	tgtgtctggg	tttcatccat	180
ccgacattga	agttgactta	ctgaagaatg	gagagagaat	tgaaaaagtg	gagcattcag	240
acttgctctt	cagcaaggac	tggtctttct	atctcttgta	ctacactgaa	ttcaccccca	300
ctgaaaaaga	tgagtatgcc	tgccgtgtga	accatgtgac	tttgtcacag	cccaagatng	360
ttnagtggga	tcganacatg	taagcagcan	catgggaggt			400

<210> 77

<211> 248

<212> DNA

<213> Homo sapien

<400> 77

ctggagtgcc	ttgggtgttc	aagcccctgc	aggaagcaga	atgcaccttc	tgaggcacct	60
------------	------------	------------	------------	------------	------------	----

```

ccagctgccc cggcggggga tgcgaggctc ggagcaccct tgcccggctg tgattgctgc      120
caggcactgt tcattctcagc ttttctgtcc ctttgcctccc ggcaagcgct tctgctgaaa      180
gttcatactc ggagcctgat gtcttaacga ataaaggctc catgctccac ccgaaaaaaa      240
aaaaaaaaa                                     248

```

```

<210> 78
<211> 201
<212> DNA
<213> Homo sapien

```

```

<400> 78
actagtcag tgtggtggaa ttccattgtg ttgggcccaa cacaatggct acctttaaca      60
tcaccagac cccgccctgc ccgtgccccca cgctgctgct aacgacagta tgatgcttac      120
tctgtactc ggaaactatt tttatgtaat taatgtatgc tttcttgttt ataatgcct      180
gatttaaaaa aaaaaaaaaa a                                     201

```

```

<210> 79
<211> 552
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(552)
<223> n = A,T,C or G

```

```

<400> 79
tccttttggt aggtttttga gacaacccta gacctaaact gtgtcacaga cttctgaatg      60
tttaggcagt gctagtaatt tcctcgtaat gattctgtta ttactttcct attctttatt      120
cctctttcct ctgaagatta atgaagtga aaattgaggt ggataaatac aaaaaggtag      180
tgtgatagta taagtatcta agtgcagatg aaagtgtgtt atatatatcc attcaaaatt      240
atgcaagtta gtaattactc agggttaact aaattacttt aatatgctgt tgaacctact      300
ctgttccttg gctagaaaaa attataaaca ggactttgtt agtttgggaa gccaaattga      360
taatattcta tgttctaaaa gttgggctat acataaanta tnaagaaata tggaatttta      420
ttcccaggaa tatgggggttc atttatgaat antaccgggg anagaagttt tgantnaaac      480
cngttttggt taatacgtta atatgtcctn aatnaacaag gcntgactta tttccaaaaa      540
aaaaaaaaa aa                                             552

```

```

<210> 80
<211> 476
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(476)
<223> n = A,T,C or G

```

```

<400> 80
acagggattt gagatgctaa ggccccagag atcgtttgat ccaaccctct tattttcaga      60
ggggaaaatg gggcctagaa gttacagagc atctagctgg tgcgctggca cccctggcct      120
cacacagact cccgagtagc tgggactaca ggcacacagt cactgaagca ggccctgttt      180
gcaattcacg ttgccacctc caacttaaac attcttcata tgtgatgtcc ttagtcacta      240
aggttaaact ttcccaccca gaaaaggcaa cttagataaa atcttagagt actttcatac      300
tcttctaagt cctcttccag cctcactttg agtcctcctt ggggggttgat aggaaantnc      360

```

```
tcttggtttt ctcaataaaa tctctatcca tctcatgttt aatttggtac gcntaaaaat 420
gctgaaaaaa ttaaaatgtt ctggtttcnc tttaaaaaaa aaaaaaaaaa aaaaaa 476
```

```
<210> 81
<211> 232
<212> DNA
<213> Homo sapien
```

```
<220>
<221> misc_feature
<222> (1)...(232)
<223> n = A,T,C or G
```

```
<400> 81
tttttttttg tatgcntcn ctgtggngtt attgttgctg ccaccctgga ggagcccagt 60
ttcttctgta tctttctttt ctgggggatc ttcttggtc tgccctcca ttcccagcct 120
ctcatcccca tcttgcaatt ttgctagggt tggaggcgct ttctggtag cccctcagag 180
actcagtcag cgggaataag tcctaggggt ggggggtgtg gcaagccggc ct 232
```

```
<210> 82
<211> 383
<212> DNA
<213> Homo sapien
```

```
<220>
<221> misc_feature
<222> (1)...(383)
<223> n = A,T,C or G
```

```
<400> 82
aggcgggagc agaagctaaa gccaaagccc aagaagagtg gcagtgccag cactgggtgcc 60
agtaccagta ccaataacat gccagtgcc gtgccagcac cagtgggtggc ttcagtgtctg 120
gtgccagcct gaccgccact ctacatttg ggctcttcgc tggccttggg ggagctgggt 180
ccagcaccag tggcagctct ggtgcctgtg gtttctccta caagtgagat tttagatatt 240
gttaatcctg ccagtcttct tcttcaagcc aggggtgcac ctcaaaaacc tactcaacac 300
agcactctng gcagccacta tcaatcaatt gaagttgaca ctctgcatta aatctatttg 360
ccatttcaaa aaaaaaaaaa aaa 383
```

```
<210> 83
<211> 494
<212> DNA
<213> Homo sapien
```

```
<220>
<221> misc_feature
<222> (1)...(494)
<223> n = A,T,C or G
```

```
<400> 83
accgaattgg gaccgctggc ttataagcga tcatgtcctc cagtattacc tcaacgagca 60
gggagatcga gtctatacgc tgaagaaatt tgaccgatg ggacaacaga cctgtctcagc 120
ccatcctgct cggttctccc cagatgacaa atactctcga caccgaatca ccatcaagaa 180
acgcttcaag gtgctcatga cccagcaacc gcgccctgtc ctctgagggt ccttaaactg 240
atgtcttttc tgccacctgt taccctctcg agactccgta accaaactct tcggactgtg 300
agccctgatg cctttttgcc agccatactc ttgggcntcc agtctctcgt ggcgattgat 360
```

```
tatgcttgtg tgaggcaatc atggtggcat caccatnaa gggaacacat ttganttttt 420
tttcncatat tttaaattac naccagaata nttcagaata aatgaattga aaaactctta 480
aaaaaaaaaa aaaa 494
```

```
<210> 84
<211> 380
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(380)
<223> n = A,T,C or G
```

```
<400> 84
gctggtagcc tatggcgtgg ccacggangg gctcctgagg cacgggacag tgacttccca 60
agtatcctgc gccgcgtctt ctaccgtccc tacctgcaga tcttcggggca gattccccag 120
gaggacatgg acgtggccct catggagcac agcaactgct cgtcggagcc cggcttctgg 180
gcacaccctc ctggggccca ggcgggcacc tgcgtctccc agtatgccaa ctggctgggtg 240
gtgctgctcc tcgtcatctt cctgctcgtg gccaacatcc tgctgggtcac ttgctcattg 300
ccatgttcag ttacacattc ggcaaagtac agggcaacag cnatctctac tgggaaggcc 360
agcgttnccg cctcatccgg 380
```

```
<210> 85
<211> 481
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(481)
<223> n = A,T,C or G
```

```
<400> 85
gagttagctc ctccacaacc ttgatgaggt cgtctgcagt ggctctctgc ttcataccgc 60
tnccatcgtc atactgtagg tttgccacca cctcctgcat cttggggcgg ctaatatcca 120
ggaaactctc aatcaagtca ccgtcnatna aacctgtggc tggttctgtc ttccgctcgg 180
tgtgaaagga tctccagaag gagtgtctga tcttccccac acttttgatg actttattga 240
gtcgattctg catgtccagc aggaggttgt accagctctc tgacagtgag gtcaccagcc 300
ctatcatgcc nttgaacgtg ccgaagaaca ccgagccttg tgtggggggg gnagtctcac 360
ccagattctg cattaccaga nagccgtggc aaaaganatt gacaactcgc ccaggnngaa 420
aaagaacacc tcctggaagt gctngccgct cctcgtccnt tggtggnngc gcntnccttt 480
t 481
```

```
<210> 86
<211> 472
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(472)
<223> n = A,T,C or G
```

```
<400> 86
```

aacatcttcc	tgtataatgc	tgtgtaatat	cgatccgatn	ttgtctgctg	agaattcatt	60
acttggaaaa	gcaacttnaa	gcctggacac	tggtattaaa	attcacaata	tgcaacactt	120
taaacagtgt	gtcaatctgc	tcccttactt	tgtcatcacc	agtctgggaa	taaggggatg	180
ccctattcac	acctgttaaa	agggcgctaa	gcatttttga	ttcaacatct	ttttttttga	240
cacaagtccg	aaaaaagcaa	aagtaaacag	ttnttaattt	gttagccaat	tcactttctt	300
catgggacag	agccatttga	tttaaaaagc	aaattgcata	atattgagct	ttggggagctg	360
atatntgagc	ggaagantag	cctttctact	tcaccagaca	caactccttt	catattggga	420
tgtnacnaa	agttatgtct	cttacagatg	ggatgctttt	gtggcaattc	tg	472

<210> 87

<211> 413

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(413)

<223> n = A,T,C or G

<400> 87

agaaaccagt	atctctnaaa	acaacctctc	ataccttgtg	gacctaat	ttgtgtgctg	60
tgtgtgtg	cgcatattat	atagacaggc	acatcttttt	tacttttcta	aaagcttatg	120
cctcttttgt	atctatatct	gtgaaagt	taatgatctg	ccataatgtc	ttggggac	180
ttgtcttctg	tgtaaagt	actagagaaa	acacctatnt	tatgagtcaa	ttctagtngt	240
tttattcgac	atgaaggaaa	tttccagatn	acaacactna	caaactctcc	cttgactagg	300
ggggacaaa	aaaagcnaa	ctgaacatna	gaaacaattn	cctgggtgaga	aattncataa	360
acagaaattg	ggtngtatat	tgaaanann	catcattnaa	acgttttttt	ttt	413

<210> 88

<211> 448

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(448)

<223> n = A,T,C or G

<400> 88

cgcagcgggt	cctctctatc	tagctccagc	ctctcgctg	ccccactccc	cgcgtcccgc	60
gtcctagccn	accatggccg	ggccccctgc	cgccccgctg	ctcctgctgg	ccatcctggc	120
cgtggccctg	gccgtgagcc	ccgcggccgg	ctccagctcc	ggcaagccgc	cgcgcctgg	180
gggagggcca	tggaccccg	gtggaagaag	aagggtgtgc	gcgtgcactg	gactttgccg	240
tcggcnanta	caacaaaccc	gcaacnactt	ttaccnagcn	cgcgctgcag	gttgtgccgc	300
cccaancaaa	ttgttactng	gggtaantaa	ttcttggaag	ttgaacctgg	gccaaacnng	360
tttaccagaa	ccnagccaat	tngaacaatt	nccccctccat	aacagcccct	tttaaaaagg	420
gaancantcc	tgntcttttc	caaat				448

<210> 89

<211> 463

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(463)

<223> n = A,T,C or G

<400> 89

gaattttgtg	cactggccac	tgtgatggaa	ccattggggcc	aggatgcttt	gagtttatca	60
gtagtgattc	tgccaaagtt	ggtgttgtaa	catgagtatg	taaaatgtca	aaaaattagc	120
agaggctctag	gtctgcatat	cagcagacag	tttgctccgtg	tattttgtag	ccttgaagtt	180
ctcagtgaca	agttntttct	gatgcgaagt	tctnattcca	gtgttttagt	cctttgcatc	240
tttnatgtn	agacttgect	ctntnaaatt	gcttttgtnt	tctgcaggta	ctatctgtgg	300
tttaacaaaa	tagaannact	tctctgcttn	gaanatttga	atatcttaca	tctnaaaatn	360
aattctctcc	ccatannaaa	acccangccc	ttggganaat	ttgaaaaang	gntccttcnn	420
aattcnnana	anttcagntn	tcatacaaca	naacnggan	ccc		463

<210> 90

<211> 400

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(400)

<223> n = A,T,C or G

<400> 90

agggattgaa	ggtctnttnt	actgtcggac	tgttcancca	ccaactctac	aagttgctgt	60
cttccactca	ctgtctgtaa	gcntnttaac	ccagactgta	tcttcataaa	tagaacaaat	120
tcttcaccag	tcacatcttc	taggaccttt	ttggattcag	ttagtataag	ctcttccact	180
tcctttgtta	agacttcac	tggtaaagtc	ttaagttttg	tagaaaggaa	tttaattgct	240
cgttctctaa	caatgtcctc	tccttgaagt	atttggtgga	acaaccacc	tnaagtccct	300
ttgtgcatcc	attttaaata	tacttaatag	ggcattggtn	cactaggtta	aattctgcaa	360
gagtcactctg	tctgcaaaaag	ttgcgttagt	atatctygcca			400

<210> 91

<211> 480

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(480)

<223> n = A,T,C or G

<400> 91

gagctcggat	ccaataatct	ttgtctgagg	gcagcacaca	tatncagtgc	catggnaact	60
ggtctacccc	acatgggagc	agcatgccgt	agntatataa	ggtcattccc	tgagtcagac	120
atgcctcttt	gactaccgtg	tgccagtgtc	ggtgattctc	acacacctcc	nnccgctctt	180
tgtggaaaaa	ctggcacttg	nctggaacta	gcaagacatc	acttacaaat	tcacccacga	240
gacacttgaa	aggtgtaaca	aagcgactct	tgcatgtgct	tttgctccctc	cggcaccagt	300
tgtcaatact	aacccgctgg	tttgccctcca	tcacatttgt	gatctgtagc	tctggatata	360
tctcctgaca	gtactgaaga	acttcttctt	ttgtttcaaa	agcaactctt	ggtgcctgtt	420
ngatcagggt	cccatttccc	agtccgaatg	ttcacatggc	atatnttact	tcccacaaaa	480

<210> 92

<211> 477

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(477)

<223> n = A,T,C or G

<400> 92

atacagccca	natcccacca	cgaagatgcg	cttggtgact	gagaacctga	tgcgggtcact	60
ggtcccgcgtg	tagccccagc	gactctccac	ctgctggaag	cggttgatgc	tgcactcctt	120
cccacgcagg	cagcagcggg	gccgggtcaat	gaactccact	cgtggcttgg	ggttgacggg	180
taantgcagg	aagaggctga	ccacctcgcg	gtccaccagg	atgcccgact	gtgcgggacc	240
tgcagcgaaa	ctcctcgatg	gtcatgagcg	ggaagcgaat	gangcccagg	gccttgccca	300
gaaccttccg	cctgttctct	ggcgtcacct	gcagctgctg	ccgctnacac	tcggcctcgg	360
accagcggac	aaacggcggt	gaacagccgc	acctcacgga	tgcccantgt	gtcgcgtcc	420
aggaacggcn	ccagcgtgtc	caggtcaatg	tcggtgaanc	ctccgcgggt	aatggcg	477

<210> 93

<211> 377

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(377)

<223> n = A,T,C or G

<400> 93

gaacggctgg	accttgccctc	gcattgtgct	gctggcagga	ataccttggc	aagcagctcc	60
agtccgagca	gccccagacc	gctgccgccc	gaagctaagc	ctgcctcttg	ccttcccctc	120
cgcctcaatg	cagaaccant	agtgggagca	ctgtgttttag	agttaagagt	gaacactgtn	180
tgattttact	tgggaatttc	ctctgttata	tagcttttcc	caatgctaata	ttccaaacaa	240
caacaacaaa	ataacatgtt	tgcctgttna	gttggtataaa	agtangtgat	tctgtatnta	300
aagaaaatat	tactgtttaca	tatactgctt	gcaanttctg	tattttattgg	tnctctggaa	360
ataaatatat	tattaaa					377

<210> 94

<211> 495

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(495)

<223> n = A,T,C or G

<400> 94

ccctttgagg	ggttagggtc	cagttcccag	tggaagaaac	aggccaggag	aantgcgtgc	60
cgagctgang	cagatttccc	acagtgaccc	cagagccctg	ggctatagtc	tctgaccctt	120
ccaaggaaaag	accaccttct	ggggacatgg	gctggaggggc	aggacctaga	ggcaccaagg	180
gaaggcccca	ttccggggct	gttccccgag	gaggaaggga	aggggctctg	tgtgcccccc	240
acgaggaana	ggccctgant	cctgggatca	nacaccctt	cacgtgtatc	cccacacaaa	300
tgcaagctca	ccaagggtccc	ctctcagtcc	cttccttaca	ccctgaacgg	ncactggccc	360
acacccaccc	agancancca	cccgccatgg	ggaatgtntc	caaggaatcg	cngggcaacg	420
tggactctng	tcccnnaagg	gggcagaatc	tccaatagan	gganngaacc	cttgctnana	480

aaaaaaaaana aaaaa

495

<210> 95
 <211> 472
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(472)
 <223> n = A,T,C or G

<400> 95
 ggttacttgg tttcattgcc accacttagt ggatgtcatt tagaaccatt ttgtctgctc 60
 cctctggaag ccttgcgag agcggacttt gtaattgttg gagaataact gctgaatttt 120
 tagctgtttt gagttgattc gcaccactgc accacaactc aatatgaaaa ctatttnact 180
 tatttattat cttgtgaaaa gtatacaatg aaaattttgt tcatactgta tttatcaagt 240
 atgatgaaaa gcaatagata tatattcctt tattatgtn aattatgatt gccattatta 300
 atcggcaaaa tgtggagtgt atgttctttt cacagtaata tatgcctttt gtaacttcac 360
 ttggttattt tattgtaaat gaattacaaa attcttaatt taagaaaatg gtangttata 420
 tttanttcn taatttcttt ccttgtttac gttaattttg aaaagaatgc at 472

<210> 96
 <211> 476
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(476)
 <223> n = A,T,C or G

<400> 96
 ctgaagcatt ttttcaaact tntctacttt tgtcattgat acctgtagta agttgacaat 60
 gtggtgaaat ttcaaaatta tatgtaactt ctactagtct tactttctcc cccaagtctt 120
 ttttaactca tgattttttac acacacaatc cagaacttat tatatagcct ctaagtcttt 180
 attcttcaca gtagatgatg aaagagtctt ccagtgtctt gngcanaatg ttctagntat 240
 agctggatac atacngtggg agttctataa actcatacct cagtgggact naacccaaat 300
 tgtgttagtc tcaattccta ccacactgag ggagcctccc aaatcactat attcttatct 360
 gcaggtactc ctccagaaaa acngacaggg caggcttgca tgaaaaagtn acatctgcgt 420
 taaaaagtct atcttctcta nangtctgtn aaggaacaat ttaatcttct agcttt 476

<210> 97
 <211> 479
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(479)
 <223> n = A,T,C or G

<400> 97
 actctttcta atgctgatat gatcttgagt ataagaatgc atatgtcact agaattggata 60
 aaataatgct gcaaaacttaa tgttcttatg caaatggaa cgctaataa acacagctta 120

caatcgcaaa	tcaaaactca	caagtgtctca	tctgtttag	atttagtgta	ataagactta	180
gattgtgtc	cttcggatat	gattgtttct	canatcttgg	gcaatnttcc	ttagtcaa	240
caggctacta	gaattctgtt	attggatatn	tgagagcatg	aaatTTTTaa	naatacactt	300
gtgattatna	aattaatcac	aaatTTTcact	tatacctgct	atcagcagct	agaaaaacat	360
ntnnTTTTta	natcaaagta	TTTTgtgttt	ggaantgtnn	aaatgaaatc	tgaatgtggg	420
ttcnatctta	TTTTTTcccn	gacnactant	tnctTTTTta	gggnctattc	tganccatc	479

<210> 98

<211> 461

<212> DNA

<213> Homo sapien

<400> 98

agtgacttgt	cctccaacaa	aaccccttga	tcaagtttgt	ggcactgaca	atcagaccta	60
tgctagtcc	tgcatctat	tcgtactaa	atgcagactg	gaggggacca	aaaaggggca	120
tcaactccag	ctggattatt	ttggagcctg	caaatctatt	cctacttgta	cggactttga	180
agtgattcag	tttctctac	ggatgagaga	ctggctcaag	aatatcctca	tcgagcttta	240
tgaagccact	ctgaacacgc	tggttatcta	gatgagaaca	gagaaataaa	gtcagaaaaat	300
ttacctggag	aaaagaggct	ttggctgggg	accatcccat	tgaaccttct	cttaaggact	360
ttaagaaaaa	ctaccacatg	ttgtgtatcc	tggtgccggc	cgtttatgaa	ctgaccaccc	420
tttgaataa	tcttgacgct	cctgaacttg	ctcctctgcg	a		461

<210> 99

<211> 171

<212> DNA

<213> Homo sapien

<400> 99

gtggccgcgc	gcagggtgtt	cctcgtagcg	cagggccccc	tcccttcccc	aggcgccct	60
cggcgccctc	gcgggcccga	ggaggagcgg	ctggcggtg	gggggagtgt	gacccaccct	120
cggtgagaaa	agccttctct	agcgatctga	gaggcggtgc	ttgggggtac	c	171

<210> 100

<211> 269

<212> DNA

<213> Homo sapien

<400> 100

cggccgcgaag	tgcaactcca	gctggggccg	tgccgacgaa	gattctgcc	gcagttggtc	60
cgactgcgac	gacggcgggc	gcgacagtcg	caggtgcagc	gcgggcgcct	ggggtcttgc	120
aaggctgagc	tgacgccgca	gaggtcgtgt	cacgtcccac	gaccttgacg	ccgtcgggga	180
cagccggaac	agagcccggg	gaagcgggag	gcctcgggga	gcccctcggg	aagggcggcc	240
cgagagatac	gcaggtgcag	gtggccgcg				269

<210> 101

<211> 405

<212> DNA

<213> Homo sapien

<400> 101

TTTTTTTTTT	TTTTggaatc	tactgcgagc	acagcaggtc	agcaacaagt	ttatttttgc	60
gctagcaagg	taacagggtg	gggcatgggt	acatgttcag	gtcaacttcc	tttgtcgtgg	120
ttgattgggt	tgtctttatg	ggggcggggg	ggggtagggg	aaacgaagca	aataacatgg	180
agtgggtgca	ccctccctgt	agaacctggg	tacaaagctt	ggggcagttc	acctgggtctg	240
tgaccgtcat	tttcttgaca	tcaatgttat	tagaagtcag	gatattcttt	agagagtcca	300

ctgttctgga gggagattag ggtttcttgc caaatccaac aaaatccact gaaaaagttg 360
 gatgatcagt acgaataccg aggcatattc tcatatcggt ggcca 405

<210> 102
 <211> 470
 <212> DNA
 <213> Homo sapien

<400> 102
 tttttttttt tttttttttt tttttttttt tttttttttt tttttttttt tttttttttt 60
 ggcacttaat ccattttttat ttcaaaatgt ctacaaattt aatcccatta tacggtattt 120
 tcaaaatcta aattattcaa attagccaaa tccttaccaa ataataccca aaaatcaaaa 180
 atatacttct ttcagcaaac ttgttacata aattaaaaaa atatatacgg ctggtgtttt 240
 caaagtacaa ttatcttaac actgcaaaac tttaaggaa ctaaaataaa aaaaaacact 300
 ccgcaaagggt taaagggaac aacaaattct ttacaacac cattataaaa atcatatctc 360
 aaatcttagg ggaatatata cttcacacgg gatcttaact ttactcact ttgtttattt 420
 ttttaacca ttgtttgggc ccaacacaat ggaatcccc ctggactagt 470

<210> 103
 <211> 581
 <212> DNA
 <213> Homo sapien

<400> 103
 tttttttttt ttttttttga ccccccctctt ataaaaaaca agttaccatt ttatttttact 60
 tacacatatt tattttataa ttggtattag atattcaaaa ggcagctttt aaaatcaaac 120
 taaatggaaa ctgccttaga tacataattc ttaggaatta gcttaaaatc tgcctaaagt 180
 gaaaatcttc tctagctctt ttgactgtaa atttttgact cttgtaaaac atccaaattc 240
 atttttcttg tctttaaaat tatctaattc ttccattttt tccctattcc aagtcaattt 300
 gcttctctag cctcatttcc tagctcttat ctactattag taagtggctt ttttcctaaa 360
 agggaaaaca ggaagagaaa tggcacacaa aacaaacatt ttatattcat atttctacct 420
 acgttaataa aatagcattt tgtgaagcca gtcaaaaga aggcttagat ccttttatgt 480
 ccatttttagt cactaaacga tatcaaagtg ccagaatgca aaagggttgt gaacatttat 540
 tcaaaagcta atataagata tttcacatac tcatctttct g 581

<210> 104
 <211> 578
 <212> DNA
 <213> Homo sapien

<400> 104
 tttttttttt tttttttttt tttttctctt cttttttttt gaaatgagga tcgagttttt 60
 cactctctag atagggcatg aagaaaactc atctttccag ctttaaaata acaatcaaat 120
 ctcttatgct atatcatatt ttaagttaaa ctaatgagtc actggcttat cttctcctga 180
 aggaaatctg ttcattcttc tcattcatat agttatatca agtactacct tgcattattga 240
 gaggtttttt ttctctattt acacatatat ttccatgtga atttgtatca aacctttatt 300
 ttcatgcaaa ctagaaaata atgtttcttt tgcataagag aagagaacaa tatagcatta 360
 caaaactgct caaattgttt gttaagttat ccattataat tagttggcag gagctaatac 420
 aaatcacatt tacgacagca ataataaaac tgaagtacca gttaaataac caaaataatt 480
 aaaggaacat ttttagcctg ggtataatta gctaattcac tttacaagca tttattagaa 540
 tgaattcaca tggtattatt cctagcccaa cacaatgg 578

<210> 105
 <211> 538
 <212> DNA

<213> Homo sapien

<400> 105

tttttttttt	tttttcagta	ataatcagaa	caatatttat	ttttatattt	aaaattcata	60
gaaaagtgcc	ttacatttaa	taaaagtttg	tttctcaaag	tgatcagagg	aattagatat	120
gtcttgaaca	ccaatattaa	tttgaggaaa	atac'accaa	atacattaag	taaattattt	180
aagatcatag	agcttgtaag	tgaaaagata	aaatttgacc	tcagaaactc	tgagcattaa	240
aaatccacta	ttagcaaata	aattactatg	gacttcttgc	tttaattttg	tgatgaatat	300
ggggtgtcac	tggtaaacca	acacattctg	aaggatacat	tacttagtga	tagattctta	360
tgtactttgc	taatacgtgg	atatgagttg	acaagtttct	ctttcttcaa	tcttttaagg	420
ggcgagaaat	gaggaagaaa	agaaaaggat	tacgcatact	gttctttcta	tggaaggatt	480
agatatgttt	cctttgccaa	tattaaaaaa	ataataatgt	ttactactag	tgaaaccc	538

<210> 106

<211> 473

<212> DNA

<213> Homo sapien

<400> 106

tttttttttt	tttttttagtc	aagtttctat	ttttattata	attaaagtct	tggtcatttc	60
atttattagc	tctgcaactt	acatatttaa	attaaagaaa	cgtttttagac	aactgtacaa	120
tttataaatg	taagggtgcca	ttattgagta	atatattcct	ccaagagtgg	atgtgtccct	180
tctcccacca	actaatgaac	agcaacatta	gtttaatttt	attagtagat	atacactgct	240
gcaaacgcta	attctcttct	ccatccccc	gtgatattgt	gtatatgtgt	gagttggtag	300
aatgcatcac	aatctacaat	caacagcaag	atgaagctag	gctgggcttt	cggtgaaaat	360
agactgtgtc	tgtctgaatc	aaatgatctg	acctatcctc	ggtggcaaga	actcttcgaa	420
ccgcttcctc	aaaggcgctg	ccacatttgt	ggctctttgc	acttgtttca	aaa	473

<210> 107

<211> 1621

<212> DNA

<213> Homo sapien

<400> 107

cgccatggca	ctgcagggca	tctcggtcat	ggagctgtcc	ggcctggccc	cgggcccgtt	60
ctgtgctatg	gtcctggctg	acttcggggc	gcgtgtggta	cgctgggacc	ggcccggctc	120
ccgctacgac	gtgagccgct	tgggcccggg	caagcgctcg	ctagtgtctg	acctgaagca	180
gccgcgggga	gccgccgtgc	tgcggcgctc	gtgcaagcgg	tcggatgtgc	tgctggagcc	240
cttccgccgc	ggtgtcatgg	agaaactcca	gctgggccc	gagattctgc	agcgggaaaa	300
tccaaggctt	atttatgcc	ggctgagtgg	atttgccag	tcaggaagct	tctgccggtt	360
agctggccac	gatatcaact	atttggtttt	gtcaggtgtt	ctctcaaaaa	ttggcagaag	420
tggtgagaat	ccgtatgccc	cgctgaatct	cctggctgac	tttgctggtg	gtggccttat	480
gtgtgcactg	ggcattataa	tggctctttt	tgaccgcaca	cgactgaca	agggtcaggt	540
cattgatgca	aatatggtgg	aaggaacagc	atatttaagt	tcttttctgt	ggaaaactca	600
gaaatcgagt	ctgtgggaag	cacctcgagg	acagaacatg	ttggatggtg	gagcaccttt	660
ctatacgact	tacaggacag	cagatgggga	attcatggct	gttggagcaa	tagaacccca	720
gttctacgag	ctgctgatca	aaggacttgg	actaaagtct	gatgaacttc	ccaatcagat	780
gagcatggat	gattggccag	aatgaagaa	gaagtttgca	gatgtatttg	caaagaagac	840
gaaggcagag	tggtgtcaaa	tctttgacgg	cacagatgcc	tgtgtgactc	cggttctgac	900
ttttgaggag	gttgttcac	atgatcaca	caaggaacgg	ggctcgttta	tcaccagtga	960
ggagcaggac	gtgagcccc	gccctgcacc	tctgtgttta	aacaccccag	ccatcccttc	1020
tttcaaaagg	gatcctttca	taggagaaca	cactgaggag	atacttgaag	aatttggtat	1080
cagccgcgaa	gagatttatc	agcttaactc	agataaaatc	attgaaagta	ataaggtaaa	1140
agctagtctc	taacttcag	gcccacggct	caagtgaatt	tgaatactgc	atttacagtg	1200
tagagtaaca	cataacattg	tatgcatgga	aacatggagg	aacagtatta	cagtgtccta	1260

```

ccactctaata caagaaaaga attacagact ctgattctac agtgatgatt gaattctaaa 1320
aatgggtatc attagggctt ttgatttata aaactttggg tacttataact aaattatggt 1380
agttattctg ccttccagtt tgcttgatat atttgttgat attaagattc ttgacttata 1440
ttttgaatgg gttctagtga aaaaggaatg atatattctt gaagacatcg atatacattt 1500
atttacactc ttgattctac aatgtagaaa atgaggaaat gccacaaatt gtatggtgat 1560
aaaagtcacg tgaaacaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1620
a 1621

```

<210> 108

<211> 382

<212> PRT

<213> Homo sapien

<400> 108

```

Met Ala Leu Gln Gly Ile Ser Val Met Glu Leu Ser Gly Leu Ala Pro
1 5 10 15
Gly Pro Phe Cys Ala Met Val Leu Ala Asp Phe Gly Ala Arg Val Val
20 25 30
Arg Val Asp Arg Pro Gly Ser Arg Tyr Asp Val Ser Arg Leu Gly Arg
35 40 45
Gly Lys Arg Ser Leu Val Leu Asp Leu Lys Gln Pro Arg Gly Ala Ala
50 55 60
Val Leu Arg Arg Leu Cys Lys Arg Ser Asp Val Leu Leu Glu Pro Phe
65 70 75 80
Arg Arg Gly Val Met Glu Lys Leu Gln Leu Gly Pro Glu Ile Leu Gln
85 90 95
Arg Glu Asn Pro Arg Leu Ile Tyr Ala Arg Leu Ser Gly Phe Gly Gln
100 105 110
Ser Gly Ser Phe Cys Arg Leu Ala Gly His Asp Ile Asn Tyr Leu Ala
115 120 125
Leu Ser Gly Val Leu Ser Lys Ile Gly Arg Ser Gly Glu Asn Pro Tyr
130 135 140
Ala Pro Leu Asn Leu Leu Ala Asp Phe Ala Gly Gly Gly Leu Met Cys
145 150 155 160
Ala Leu Gly Ile Ile Met Ala Leu Phe Asp Arg Thr Arg Thr Asp Lys
165 170 175
Gly Gln Val Ile Asp Ala Asn Met Val Glu Gly Thr Ala Tyr Leu Ser
180 185 190
Ser Phe Leu Trp Lys Thr Gln Lys Ser Ser Leu Trp Glu Ala Pro Arg
195 200 205
Gly Gln Asn Met Leu Asp Gly Gly Ala Pro Phe Tyr Thr Thr Tyr Arg
210 215 220
Thr Ala Asp Gly Glu Phe Met Ala Val Gly Ala Ile Glu Pro Gln Phe
225 230 235 240
Tyr Glu Leu Leu Ile Lys Gly Leu Gly Leu Lys Ser Asp Glu Leu Pro
245 250 255
Asn Gln Met Ser Met Asp Asp Trp Pro Glu Met Lys Lys Lys Phe Ala
260 265 270
Asp Val Phe Ala Lys Lys Thr Lys Ala Glu Trp Cys Gln Ile Phe Asp
275 280 285
Gly Thr Asp Ala Cys Val Thr Pro Val Leu Thr Phe Glu Glu Val Val
290 295 300
His His Asp His Asn Lys Glu Arg Gly Ser Phe Ile Thr Ser Glu Glu
305 310 315 320
Gln Asp Val Ser Pro Arg Pro Ala Pro Leu Leu Leu Asn Thr Pro Ala

```

				325						330					335				
Ile	Pro	Ser	Phe	Lys	Arg	Asp	Pro	Phe	Ile	Gly	Glu	His	Thr	Glu	Glu				
			340					345					350						
Ile	Leu	Glu	Glu	Phe	Gly	Phe	Ser	Arg	Glu	Glu	Ile	Tyr	Gln	Leu	Asn				
		355					360					365							
Ser	Asp	Lys	Ile	Ile	Glu	Ser	Asn	Lys	Val	Lys	Ala	Ser	Leu						
	370						375					380							

<210> 109
 <211> 1524
 <212> DNA
 <213> Homo sapien

<400> 109

ggcacgaggg	tgcgccaggg	cctgagcggg	ggcggggggca	gcctcgccag	cgggggcccc	60
gggcctggcc	atgcctcact	gagccagcgc	ctgcgcctct	acctcgccga	cagctggaac	120
cagtgcgacc	tagtggtctt	cacctgcttc	ctcctgggcg	tgggctgccg	gctgaccccc	180
ggtttgtacc	acctgggccc	cactgtcctc	tgcctcgact	tcattggtttt	cacgggtgcgg	240
ctgcttcaca	tcttcacggg	caacaaacag	ctggggccca	agatcgatcat	cgtgagcaag	300
atgatgaagg	acgtgttctt	cttctctctt	ttctctggcg	tgtggctggg	agcctatggc	360
gtggccacgg	aggggctcct	gaggccacgg	gacagtgact	tcccaagtat	cctgcgccgc	420
gtcttctacc	gtccctacct	gcagatcttc	gggcagattc	cccaggagga	catggacgtg	480
gccctcatgg	agcacagcaa	ctgctcgctc	gagcccggct	tctgggcaca	ccctcctggg	540
gcccaggcgg	gcacctgcgt	ctcccagtat	gccaactggc	tgggtgggtg	gctcctcgtc	600
atcttctctg	tcgtggccaa	catcctgctg	gtcaacttgc	tcattgccat	gttcagttac	660
acattcggca	aagtacaggg	caacagcgat	ctctactgga	aggcgcagcg	ttaccgcctc	720
atccgggaat	tccactctcg	gcccgcgctg	gccccgccct	ttatcgatcat	ctcccacttg	780
cgcctcctgc	tcaggcaatt	gtgcaggcga	ccccggagcc	cccagccgtc	ctccccggcc	840
ctcgagcatt	tccgggttta	cctttctaa	gaagccgagc	ggaagctgct	aacgtgggaa	900
tcgggtgcata	aggagaactt	tctgctggca	cgcgctaggg	acaagcggga	gagcgacatc	960
gagcgtctga	agcgcacgtc	ccagaagggtg	gacttggcac	tgaacagct	gggacacatc	1020
cgcgagtacg	aacagcgctt	gaaagtgtctg	gagcgggagg	tccagcagtg	tagccgcgtc	1080
ctgggggtggg	tggccgaggg	cctgagccgc	tctgccttgc	tggccccagg	tgggcccgcc	1140
ccccctgacc	tgcctgggtc	caaagactga	gccctgctgg	cggacttcaa	ggagaagccc	1200
ccacagggga	ttttgctcct	agagtaaggc	tcattctggg	ctcgcccccc	gcacctggtg	1260
gccttgtcct	tgaggtgagc	cccatgtcca	tctgggccac	tgtcaggacc	acctttggga	1320
gtgtcatcct	tacaaaccac	agcatgccc	gctcctccca	gaaccagtcc	cagcctggga	1380
ggatcaaggc	ctggatccc	ggcgttatc	catctggagg	ctgcagggtc	cttggggtaa	1440
cagggaccac	agaccctca	ccactcacag	attcctcaca	ctggggaaat	aaagccattt	1500
cagaggaaaa	aaaaaaaaaa	aaaa				1524

<210> 110
 <211> 3410
 <212> DNA
 <213> Homo sapien

<400> 110

gggaaccagc	ctgcacgcgc	tggctccggg	tgacagccgc	gcgcctcggc	caggatctga	60
gtgatgagac	gtgtccccac	tgaggtgccc	cacagcagca	ggtgttgagc	atgggctgag	120
aagctggacc	ggcaccaaa	ggctggcaga	aatgggcgcc	tggctgattc	ctaggcagtt	180
ggcggcagca	aggaggagag	gccgcagctt	ctggagcaga	gccgagacga	agcagttctg	240
gagtgcctga	acggccccct	gagccctacc	cgcctggccc	actatgggtc	agaggctgtg	300
ggtgagccgc	ctgctgcggc	accggaaagc	ccagctcttg	ctggtcaacc	tgctaaccctt	360
tggcctggag	gtgtgttttg	ccgcaggcat	cacctatgtg	ccgcctctgc	tgctggaagt	420
gggggtagag	gagaagttca	tgaccatggg	gctgggcatt	ggtccagtg	tgggcctggg	480

ctgtgtccccg	ctcctaggct	cagccagtga	ccactggcgt	ggacgctatg	gccgccgcgcg	540
gcccttcac	tgggcactgt	ccttgggcat	cctgtgagc	ctctttctca	tcccaagggc	600
cggctggcta	gcagggctgc	tgtgcccgga	tcccaggccc	ctggagctgg	cactgctcat	660
cctgggcgtg	gggctgctgg	acttctgtgg	ccagggtgtc	ttcactccac	tggaggccct	720
gctctctgac	ctcttccggg	acccggacca	ctgtcgccag	gcctactctg	tctatgcctt	780
catgatcagt	cttgggggct	gcctgggcta	cctcctgcct	gccattgact	gggacaccag	840
tgccttggcc	ccctacctgg	gcacccagga	ggagtgcctc	tttggcctgc	tcacctcat	900
cttcctcacc	tgcgtagcag	ccacactgct	gggtggctgag	gaggcagcgc	tgggccccac	960
cgagccagca	gaagggctgt	cggccccctc	cttgtcgccc	cactgctgtc	catgccgggc	1020
ccgcttggct	ttccggaacc	tgggcgcctt	gcttccccgg	ctgcaccagc	tgtgctgccg	1080
catgccccgc	accctgcgcc	ggctcttcgt	ggctgagctg	tgcagctgga	tggcactcat	1140
gaccttcacg	ctgttttaca	cggatttcgt	gggcgagggg	ctgtaccagg	gcgtgcccag	1200
agctgagccg	ggcaccgagg	cccggagaca	ctatgatgaa	ggcgttcgga	tgggcagcct	1260
ggggctgttc	ctgcagtgcg	ccatctccct	ggtcttctct	ctggtcattg	accggctggt	1320
gcagcgattc	ggcactcgag	cagtctatatt	ggccagtgtg	gcagctttcc	ctgtggctgc	1380
cgggtgccaca	tgcctgtccc	acagtgtggc	cgtggtgaca	gcttcagccg	ccctcaccgg	1440
gttcaccttc	tcagccctgc	agatcctgcc	ctacacactg	gcctccctct	accaccggga	1500
gaagcaggtg	ttcctgcccc	aataccgagg	ggacactgga	ggtgctagca	gtgaggacag	1560
cctgatgacc	agcttccctgc	caggccctaa	gcctggagct	cccttcccta	atggacacgt	1620
gggtgctgga	ggcagtggcc	tgcctcccacc	tccaccgcgc	ctctgcgggg	cctctgcctg	1680
tgatgtctcc	gtacgtgtgg	tgggtgggtga	gccaccgag	gccaggggtg	ttccggggccg	1740
gggcatctgc	ctggacctcg	ccatccctgga	tagtgccctc	ctgctgtccc	agggtggcccc	1800
atccctgttt	atgggctcca	ttgtccagct	cagtcagctc	gtcactgcct	atagtgtgtc	1860
tgccgcaggc	ctgggtctgg	tcgccattta	ctttgctaca	caggtagtat	ttgacaaga	1920
cgacttggcc	aaatactcag	cgtagaaaac	ttccagcaca	ttggggtgga	gggcctgcct	1980
cactgggtcc	cagctccccg	ctcctgttag	ccccatgggg	ctgccgggct	ggccgccagt	2040
ttctgttgct	gccaaagtaa	tgtggctctc	tgctgccacc	ctgtgctgct	gagggtgcgt	2100
gctgcacagc	tgggggctgg	ggcgtccctc	tcctctctcc	ccagtctcta	gggctgccc	2160
actggaggcc	ttccaagggg	gtttcagctc	ggacttatac	agggaggcca	gaagggctcc	2220
atgcactgga	atgcggggac	tctgcagggt	gattaccag	gctcagggtt	aacagctagc	2280
ctcctagttg	agacacacct	agagaagggg	ttttgggagc	tgaataaact	cagtcacctg	2340
gtttcccatc	tctaagcccc	ttaacctgca	gcttcgttta	atgtagctct	tgcattgggag	2400
ttcttaggat	gaaacactcc	tccatgggat	ttgaacatat	gacttatttg	taggggaaga	2460
gtcctgaggg	gcaacacaca	agaaccaggt	cccctcagcc	cacagcactg	tctttttgct	2520
gatccacccc	cctcttacct	tttatcagga	tgtggcctgt	tggtccttct	gttgccatca	2580
cagagacaca	ggcattttaa	tatttaactt	atttatttaa	caaagtagaa	gggaatccat	2640
tgctagcttt	tctgtgttgg	tgtctaatat	ttgggtaggg	tgggggatcc	ccaacaatca	2700
gggtccctga	gatagctggt	cattgggctg	atcattgcca	gaatcttctt	ctcctggggt	2760
ctggcccccc	aaaatgccta	accaggacc	ttggaaattc	tactcatccc	aaatgataat	2820
tccaaatgct	gttaccacaag	gttaggggtg	tgaaggaaag	tagagggtgg	ggcttcaggt	2880
ctcaacggct	tccctaacca	cccctcttct	cttggccccag	cctgggtccc	cccacttcca	2940
ctccccctta	ctctctctag	gactgggctg	atgaaggcac	tgccccaaaat	ttccccctacc	3000
cccaactttc	ccctaccccc	aactttcccc	accagctcca	caaccctggt	tggagctact	3060
gcaggaccag	aagcacaaaag	tgcggtttcc	caagcctttg	tccatctcag	ccccagagt	3120
atatctgtgc	ttgggggaatc	tcacacagaa	actcaggagc	acccctgccc	tgagctaagg	3180
gaggtcttat	ctctcagggg	gggtttaagt	gccgtttgca	ataatgtcgt	cttatttatt	3240
tagcgggggtg	aatatttttat	actgtaagtg	agcaatcaga	gtataatgtt	tatggtgaca	3300
aaattaaagg	ctttcttata	tgtttaaaaa	aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaaa	3360
aaaaaaaaara	aaaaaaaaaa	aaaaaaaaaa	aaaaaaataa	aaaaaaaaaa		3410

<210> 111

<211> 1289

<212> DNA

<213> Homo sapien

<400> 111

```

agccaggcgt ccctctgcct gccactcag tggcaacacc cgggagctgt tttgtccttt      60
gtggagcctc agcagttccc tctttcagaa ctcactgcc aagagccctga acaggagcca      120
ccatgcagtg cttcagcttc attaaagacca tgatgatcct cttcaatttg ctcactcttc      180
tgtgtggtgc agccctggtg gcagtgaggca tctgggtgtc aatcgatggg gcaccccttc      240
tgaagatctt cgggccactg tcgtccagtg ccatgcagtt tgtcaacgtg ggctacttcc      300
tcacgcagc cggcggtgtg gtctttgtct ttggtttcct gggctgctat ggtgctaaga      360
ctgagagcaa gtgtgccctc gtgacgttct tcttcactc cctcctcatc ttcattgctg      420
aggttgagc tgctgtggtc gccttggtgt acaccacaat ggctgagcac ttcctgacgt      480
tgctggtagt gcctgccatc aagaaagatt atggttccca ggaagacttc actcaagtgt      540
ggaacaccac catgaaaggg ctcaagtgtc gtggcttcac caactatacg gattttgagg      600
actcacccta cttcaaagag aacagtgcct tccccctatt ctgttgcaat gacaacgtca      660
ccaacacagc caatgaaacc tgcaccaagc aaaaggctca cgaccaaaaa gtagagggtt      720
gcttcaatca gcttttgtat gacatccgaa ctaatgcagt caccgtgggt ggtgtggcag      780
ctggaattgg gggcctcgag ctggctgcc tgaattgtgc catgtatctg tactgcaatc      840
tacaataagt ccacttctgc ctctgccact actgctgcc catgggaact gtgaagaggc      900
accctggcaa gcagcagtg ttgggggagg ggacaggatc taacaatgtc acttgggcca      960
gaatggacct gccctttctg ctccagactt ggggctagat agggaccact ccttttagcg      1020
atgcctgact ttccttccat tgggtgggtg atgggtgggg ggcattccag agcctctaag      1080
gtagccagtt ctgttgccca tccccccagt ctattaaacc cttgatatgc cccctaggcc      1140
tagtggtgat cccagtgtc tactggggga tgagagaaaag gcattttata gcctgggcat      1200
aagtgaatc agcagagcct ctgggtggat gtgtagaagg cacttcaaaa tgcataaacc      1260
tgttacaatg ttaaaaaaaaa aaaaaaaaaa      1289

```

<210> 112

<211> 315

<212> PRT

<213> Homo sapien

<400> 112

```

Met Val Phe Thr Val Arg Leu Leu His Ile Phe Thr Val Asn Lys Gln
 1          5          10          15
Leu Gly Pro Lys Ile Val Ile Val Ser Lys Met Met Lys Asp Val Phe
          20          25          30
Phe Phe Leu Phe Phe Leu Gly Val Trp Leu Val Ala Tyr Gly Val Ala
          35          40          45
Thr Glu Gly Leu Leu Arg Pro Arg Asp Ser Asp Phe Pro Ser Ile Leu
          50          55          60
Arg Arg Val Phe Tyr Arg Pro Tyr Leu Gln Ile Phe Gly Gln Ile Pro
          65          70          75          80
Gln Glu Asp Met Asp Val Ala Leu Met Glu His Ser Asn Cys Ser Ser
          85          90          95
Glu Pro Gly Phe Trp Ala His Pro Pro Gly Ala Gln Ala Gly Thr Cys
          100          105          110
Val Ser Gln Tyr Ala Asn Trp Leu Val Val Leu Leu Leu Val Ile Phe
          115          120          125
Leu Leu Val Ala Asn Ile Leu Leu Val Asn Leu Leu Ile Ala Met Phe
          130          135          140
Ser Tyr Thr Phe Gly Lys Val Gln Gly Asn Ser Asp Leu Tyr Trp Lys
          145          150          155          160
Ala Gln Arg Tyr Arg Leu Ile Arg Glu Phe His Ser Arg Pro Ala Leu
          165          170          175
Ala Pro Pro Phe Ile Val Ile Ser His Leu Arg Leu Leu Leu Arg Gln
          180          185          190
Leu Cys Arg Arg Pro Arg Ser Pro Gln Pro Ser Ser Pro Ala Leu Glu

```

```

      195              200              205
His Phe Arg Val Tyr Leu Ser Lys Glu Ala Glu Arg Lys Leu Leu Thr
  210              215              220
Trp Glu Ser Val His Lys Glu Asn Phe Leu Leu Ala Arg Ala Arg Asp
  225              230              235              240
Lys Arg Glu Ser Asp Ser Glu Arg Leu Lys Arg Thr Ser Gln Lys Val
      245              250              255
Asp Leu Ala Leu Lys Gln Leu Gly His Ile Arg Glu Tyr Glu Gln Arg
      260              265              270
Leu Lys Val Leu Glu Arg Glu Val Gln Gln Cys Ser Arg Val Leu Gly
      275              280              285
Trp Val Ala Glu Ala Leu Ser Arg Ser Ala Leu Leu Pro Pro Gly Gly
      290              295              300
Pro Pro Pro Pro Asp Leu Pro Gly Ser Lys Asp
  305              310              315

```

```

<210> 113
<211> 553
<212> PRT
<213> Homo sapien

```

```

      <400> 113
Met Val Gln Arg Leu Trp Val Ser Arg Leu Leu Arg His Arg Lys Ala
  1              5              10              15
Gln Leu Leu Leu Val Asn Leu Leu Thr Phe Gly Leu Glu Val Cys Leu
      20              25              30
Ala Ala Gly Ile Thr Tyr Val Pro Pro Leu Leu Leu Glu Val Gly Val
      35              40              45
Glu Glu Lys Phe Met Thr Met Val Leu Gly Ile Gly Pro Val Leu Gly
      50              55              60
Leu Val Cys Val Pro Leu Leu Gly Ser Ala Ser Asp His Trp Arg Gly
      65              70              75              80
Arg Tyr Gly Arg Arg Arg Pro Phe Ile Trp Ala Leu Ser Leu Gly Ile
      85              90              95
Leu Leu Ser Leu Phe Leu Ile Pro Arg Ala Gly Trp Leu Ala Gly Leu
      100              105              110
Leu Cys Pro Asp Pro Arg Pro Leu Glu Leu Ala Leu Leu Ile Leu Gly
      115              120              125
Val Gly Leu Leu Asp Phe Cys Gly Gln Val Cys Phe Thr Pro Leu Glu
      130              135              140
Ala Leu Leu Ser Asp Leu Phe Arg Asp Pro Asp His Cys Arg Gln Ala
      145              150              155              160
Tyr Ser Val Tyr Ala Phe Met Ile Ser Leu Gly Gly Cys Leu Gly Tyr
      165              170              175
Leu Leu Pro Ala Ile Asp Trp Asp Thr Ser Ala Leu Ala Pro Tyr Leu
      180              185              190
Gly Thr Gln Glu Glu Cys Leu Phe Gly Leu Leu Thr Leu Ile Phe Leu
      195              200              205
Thr Cys Val Ala Ala Thr Leu Val Ala Glu Glu Ala Ala Leu Gly
      210              215              220
Pro Thr Glu Pro Ala Glu Gly Leu Ser Ala Pro Ser Leu Ser Pro His
      225              230              235              240
Cys Cys Pro Cys Arg Ala Arg Leu Ala Phe Arg Asn Leu Gly Ala Leu
      245              250              255
Leu Pro Arg Leu His Gln Leu Cys Cys Arg Met Pro Arg Thr Leu Arg

```



```

                260                265                270
Arg Leu Phe Val Ala Glu Leu Cys Ser Trp Met Ala Leu Met Thr Phe
                275                280                285
Thr Leu Phe Tyr Thr Asp Phe Val Gly Glu Gly Leu Tyr Gln Gly Val
                290                295                300
Pro Arg Ala Glu Pro Gly Thr Glu Ala Arg Arg His Tyr Asp Glu Gly
305                310                315                320
Val Arg Met Gly Ser Leu Gly Leu Phe Leu Gln Cys Ala Ile Ser Leu
                325                330                335
Val Phe Ser Leu Val Met Asp Arg Leu Val Gln Arg Phe Gly Thr Arg
                340                345                350
Ala Val Tyr Leu Ala Ser Val Ala Ala Phe Pro Val Ala Ala Gly Ala
                355                360                365
Thr Cys Leu Ser His Ser Val Ala Val Val Thr Ala Ser Ala Ala Leu
370                375                380
Thr Gly Phe Thr Phe Ser Ala Leu Gln Ile Leu Pro Tyr Thr Leu Ala
385                390                395                400
Ser Leu Tyr His Arg Glu Lys Gln Val Phe Leu Pro Lys Tyr Arg Gly
                405                410                415
Asp Thr Gly Gly Ala Ser Ser Glu Asp Ser Leu Met Thr Ser Phe Leu
                420                425                430
Pro Gly Pro Lys Pro Gly Ala Pro Phe Pro Asn Gly His Val Gly Ala
                435                440                445
Gly Gly Ser Gly Leu Leu Pro Pro Pro Pro Ala Leu Cys Gly Ala Ser
450                455                460
Ala Cys Asp Val Ser Val Arg Val Val Val Gly Glu Pro Thr Glu Ala
465                470                475                480
Arg Val Val Pro Gly Arg Gly Ile Cys Leu Asp Leu Ala Ile Leu Asp
                485                490                495
Ser Ala Phe Leu Leu Ser Gln Val Ala Pro Ser Leu Phe Met Gly Ser
                500                505                510
Ile Val Gln Leu Ser Gln Ser Val Thr Ala Tyr Met Val Ser Ala Ala
                515                520                525
Gly Leu Gly Leu Val Ala Ile Tyr Phe Ala Thr Gln Val Val Phe Asp
530                535                540
Lys Ser Asp Leu Ala Lys Tyr Ser Ala
545                550

```

```

<210> 114
<211> 241
<212> PRT
<213> Homo sapien

```

```

<400> 114
Met Gln Cys Phe Ser Phe Ile Lys Thr Met Met Ile Leu Phe Asn Leu
1          5          10          15
Leu Ile Phe Leu Cys Gly Ala Ala Leu Ala Val Gly Ile Trp Val
                20          25          30
Ser Ile Asp Gly Ala Ser Phe Leu Lys Ile Phe Gly Pro Leu Ser Ser
35          40          45
Ser Ala Met Gln Phe Val Asn Val Gly Tyr Phe Leu Ile Ala Ala Gly
50          55          60
Val Val Val Phe Ala Leu Gly Phe Leu Gly Cys Tyr Gly Ala Lys Thr
65          70          75          80
Glu Ser Lys Cys Ala Leu Val Thr Phe Phe Phe Ile Leu Leu Leu Ile

```

```
<210> 115
<211> 366
<212> DNA
<213> Homo sapien
```

```
<210> 116
<211> 282
<212> DNA
<213> Homo sapien
```

<400> 116						
acaaagatga	accatttcct	atattatagc	aaaattaaaa	tctaccgta	ttctaataatt	60
gagaaatgag	atnaaacaca	atnttataaa	gtctacttag	agaagatcaa	gtgacctcaa	120
agactttact	attttcatat	tttaagacac	atgatttatc	ctattttagt	aacctgggtc	180
atacgttaaa	caaaggataa	tgtgaacagc	agagaggatt	tgttggcaga	aaatctatgt	240
tcaatctnga	actatctana	tcacagacat	ttctattcct	tt		282

BNSDOCID: <WO__0004149A2_1_>

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(305)

<223> n = A,T,C or G

<400> 117

acacatgtcg	cttcactgcc	ttcttagatg	cttctgggtca	acatanagga	acagggacca	60
tatttatcct	ccctcctgaa	acaattgcaa	aataanacaa	aatatatgaa	acaattgcaa	120
aataaggcaa	aatatatgaa	acaacagggtc	tcgagatatt	ggaaatcagt	caatgaagga	180
tactgatccc	tgatcactgt	cctaattgcag	gatgtgggaa	acagatgagg	tcacctctgt	240
gactgcccc	gcttactgcc	tgtagagagt	ttctangctg	cagttcagac	agggagaaat	300
tggggt						305

<210> 118

<211> 71

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(71)

<223> n = A,T,C or G

<400> 118

accaaggtgt	ntgaatctct	gacgtgggga	tctctgattc	ccgcacaatc	tgagtggaaa	60
aantcctggg	t					71

<210> 119

<211> 212

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(212)

<223> n = A,T,C or G

<400> 119

actccggttg	gtgtcagcag	cacgtggcat	tgaacatngc	aatgtggagc	ccaaaccaca	60
gaaaatgggg	tgaaattggc	caactttcta	tnaacttatg	ttggcaantt	tgccaccaac	120
agtaagctgg	cccttcta	aaaagaaaat	tgaaagggtt	ctcactaanc	ggaattaant	180
aatggantca	aganactccc	aggcctcagc	gt			212

<210> 120

<211> 90

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(90)

<223> n = A,T,C or G

<400> 120
 actcgttgca natcaggggc cccccagagt caccgttgca ggagtccttc tgggtettgcc 60
 ctccgccggc gcagaacatg ctgggggtggt 90

<210> 121
 <211> 218
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(218)
 <223> n = A,T,C or G

<400> 121
 tgtancgtga anacgacaga naggggtgtc aaaaatggag aanccttgaa gtcattttga 60
 gaataagatt tgctaaaaga tttgggggcta aaacatgggt attgggagac atttctgaag 120
 atatncangt aaattangga atgaattcat gggtcttttg ggaattcctt tacgatngcc 180
 agcatanact tcatgtgggg atancagcta cccttgta 218

<210> 122
 <211> 171
 <212> DNA
 <213> Homo sapien

<400> 122
 taggggtgta tgcaactgta aggacaaaaa ttgagactca actggcttaa ccaataaagg 60
 catttgtag ctcatggaac aggaagtcgg atgggtggggc atcttcagtg ctgcatgagt 120
 caccaccccg gcgggggtcat ctgtgccaca ggtccctgtt gacagtgcgg t 171

<210> 123
 <211> 76
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(76)
 <223> n = A,T,C or G

<400> 123
 tgtagcgtga agacnacaga atgggtgtgtg ctgtgctatc caggaacaca tttattatca 60
 ttatcaanta ttgtgt 76

<210> 124
 <211> 131
 <212> DNA
 <213> Homo sapien

<400> 124
 acctttcccc aaggccaatg tcctgtgtgc taactggccg gctgcaggac agctgcaatt 60
 caatgtgctg ggtcatatgg aggggaggag actctaaaat agccaatttt attctcttgg 120
 ttaagatttg t 131

<210> 125
 <211> 432
 <212> DNA
 <213> Homo sapien

<400> 125
 actttatcta ctggctatga aatagatggt ggaaaattgc gttaccaact ataccactgg 60
 cttgaaaaag aggtgatagc tcttcagagg acttgtgact ttgctcaga tgctgaagaa 120
 ctacagtctg catttggcag aaatgaagat gaatttggat taaatgagga tgctgaagat 180
 ttgcctcacc aaacaaaagt gaaacaactg agagaaaatt ttcaggaaaa aagacagtgg 240
 ctcttgaagt atcagtcact tttgagaatg tttcttagtt actgcatact tcatggatcc 300
 catgggtgggg gtcttgcacg tgtaagaatg gaattgattt tgcttttgca agaattctcag 360
 caggaaacat cagaaccact attttctagc cctctgtcag agcaaaccctc agtgcctctc 420
 ctctttgctt gt 432

<210> 126
 <211> 112
 <212> DNA
 <213> Homo sapien

<400> 126
 acacaacttg aatagtaaaa tagaaactga gctgaaattt ctaattcact ttctaaccat 60
 agtaagaatg atatttcccc ccagggatca ccaaattatt ataaaaattt gt 112

<210> 127
 <211> 54
 <212> DNA
 <213> Homo sapien

<400> 127
 accacgaaac cacaacaag atggaagcat caatccactt gccaagcaca gcag 54

<210> 128
 <211> 323
 <212> DNA
 <213> Homo sapien

<400> 128
 acctcattag taattgtttt gttgtttcat ttttttctaa tgtctcccct ctaccagctc 60
 acctgagata acagaatgaa aatggaagga cagccagatt tctcctttgc tctctgctca 120
 ttctctctga agtctaggtt acccattttg gggacccatt ataggcaata aacacagtcc 180
 ccaaagcatt tggacagttt cttgtttgtg tttagaatgg ttttcctttt tcttagcctt 240
 ttcctgcaaa aggctcactc agtcccttgc ttgctcagtg gactgggctc cccagggcct 300
 aggtgcctt cttttccatg tcc 323

<210> 129
 <211> 192
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (192)
 <223> n = A,T,C or G

<400> 129

acatacatgt gtgtatat	tttaaata	cttttgtatc	actctgactt	tttagcatac	60
tgaaaacaca ctaacata	at ttntgtgaac	catgatcaga	tacaacccaa	atcattcatc	120
tagcacattc atctgtgata	naaagatagg	tgagtttcat	ttccttcacg	ttggccaatg	180
gataaacaaa gt					192

<210> 130

<211> 362

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(362)

<223> n = A,T,C or G

<400> 130

ccctttttta tggaatgagt	agactgtatg	tttgaanatt	tanccacaac	ctctttgaca	60
tataatgacg caacaaaaag	gtgctgttta	gtcctatggg	tcagtttatg	cccctgacaa	120
gtttccattg tgttttgccg	atcttctggc	taatcgtggg	atcctccatg	ttattagtaa	180
ttctgtattc cattttgtta	acgcctggta	gatgtaacct	gctangaggc	taactttata	240
cttattttaa agctcttatt	ttgtgggtcat	taaaatggca	atztatgtgc	agcactttat	300
tgcagcagga agcacgtgtg	ggttgggtgt	aaagctcttt	gctaattctta	aaaagtaatg	360
gg					362

<210> 131

<211> 332

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(332)

<223> n = A,T,C or G

<400> 131

ctttttgaaa gatcgtgtcc	actcctgtgg	acatcttgtt	ttaatggagt	ttcccatgca	60
gtangactgg tatggttgca	gctgtccaga	taaaaacatt	tgaagagctc	caaaatgaga	120
gttctcccag gttegccttg	ctgctccaag	tctcagcagc	agcctctttt	aggaggcatc	180
ttctgaacta gattaaggca	gcttgtaa	at ctgatgtgat	ttggtttatt	atccaactaa	240
cttccatctg ttatcactgg	agaaagccca	gactccccan	gacnggtacg	gattgtgggc	300
atanaaggat tgggtgaagc	tggcgttgtg	gt			332

<210> 132

<211> 322

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(322)

<223> n = A,T,C or G

<400> 132

acttttgcca ttttgtatat	ataaacaatc	ttgggacatt	ctcctgaaaa	ctaggtgtcc	60
-----------------------	------------	------------	------------	------------	----

```

agtggctaag agaactcgat ttcaagcaat tctgaaagga aaaccagcat gacacagaat 120
ctcaaattcc caaacagggg ctctgtggga aaaatgaggg aggaccttg tatctcgggt 180
tttagcaagt taaaatgaan atgacaggaa aggccttatt atcaacaaag agaagagttg 240
ggatgcttct aaaaaaaact ttggtagaga aaataggaat gctnaatcct agggaagcct 300
gtaacaatct acaattgggc ca                                     322

```

```

<210> 133
<211> 278
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(278)
<223> n = A,T,C or G

```

```

<400> 133
acaagccttc acaagtttaa ctaaattggg attaatcttt ctgtanttat ctgcataatt 60
cttggttttc tttccatctg gctcctgggt tgacaatttg tggaaacaac tctattgcta 120
ctatttaaaa aaaatcacaa atctttccct ttaagctatg ttnaattcaa actattcctg 180
ctattcctgt tttgtcaaag aaattatatt tttcaaaata tgtntatttg tttgatgggt 240
cccacgaaac actaataaaa accacagaga ccagcctg                                     278

```

```

<210> 134
<211> 121
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(121)
<223> n = A,T,C or G

```

```

<400> 134
gtttanaaaa ctgttttagc tccatagagg aaagaatggt aaactttgta ttttaaaaca 60
tgattctctg aggttaaact tggttttcaa atgttatatt tacttgatt ttgcttttgg 120
t                                     121

```

```

<210> 135
<211> 350
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(350)
<223> n = A,T,C or G

```

```

<400> 135
acttanaacc atgcctagca catcagaatc cctcaaagaa catcagtata atcctataacc 60
atancaagtg gtgactggtt aagcgtgcga caaaggtcag ctggcacatt acttgtgtgc 120
aaacttgata cttttgttct aagtaggaac tagtatacag tncctaggan tggactcca 180
gggtgcccc caactcctgc agccgctcct ctgtgccagn ccctgnaagg aactttcgct 240
ccacctcaat caagccctgg gccatgctac ctgcaattgg ctgaacaaac gtttgctgag 300
ttcccaagga tgcaaagcct ggtgctcaac tcctggggcg tcaactcagt                                     350

```

<210> 136
 <211> 399
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(399)
 <223> n = A,T,C or G

<400> 136
 tgtaccgtga agacgacaga agttgcatgg cagggacagg gcagggccga ggccagggtt 60
 gctgtgattg tatccgaata ntcctcgtga gaaaagataa tgagatgacg tgagcagcct 120
 gcagacttgt gtctgccttc aanaagccag acaggaaggc cctgcctgcc ttggctctga 180
 cctggcggcc agccagccag ccacagggtg gcttcttcct tttgtggtga caacnccaag 240
 aaaactgcag agggccaggg tcagggtgtna gtgggtangt gaccataaaa caccagggtgc 300
 tcccaggaac ccgggcaaag gccatcccca cctacagcca gcatgcccac tggcgtgatg 360
 ggtgcagang gatgaagcag ccagntgttc tgctgtggt 399

<210> 137
 <211> 165
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(165)
 <223> n = A,T,C or G

<400> 137
 actggtgtgg tngggggtga tgctggtggt anaagttgan gtgacttcan gatggtgtgt 60
 ggaggaagtg tgtgaacgta gggatgtaga ngttttggcc gtgctaaatg agcttcggga 120
 ttggctggtc ccaactggtg tcaactgtcat tggtgggggt cctgt 165

<210> 138
 <211> 338
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(338)
 <223> n = A,T,C or G

<400> 138
 actcactgga atgccacatt cacaacagaa tcagagggtct gtgaaaacat taatggctcc 60
 ttaacttctc cagtaagaat cagggacttg aaatggaaac gttaacagcc acatgcccaa 120
 tgctgggcag tctcccatgc cttccacagt gaaagggctt gagaaaaatc acatccaatg 180
 tcatgtgttt ccagccacac caaaagggtgc ttgggggtgga gggctggggg catananggt 240
 cangcctcag gaagcctcaa gttccattca gctttgccac tgtacattcc ccatntttaa 300
 aaaaactgat gccttttttt tttttttttg taaaattc 338

<210> 139
 <211> 382

<212> DNA

<213> Homo sapien

<400> 139

gggaatcttg	gtttttggca	tctggtttgc	ctatagccga	ggccactttg	acagaacaaa	60
gaaagggact	tcgagtaaga	aggtgattta	cagccagcct	agtgcccgaa	gtgaaggaga	120
attcaaacag	acctcgtcac	tcctgggtgtg	agcctgggtcg	gtccaccgcc	tatcatctgc	180
atttgcccta	ctcaggtgct	accggactct	ggccccctgat	gtctgtagtt	tcacaggatg	240
ccttatttgt	cttctacacc	ccacagggcc	ccctaacttct	tcggatgtgt	ttttaataat	300
gtcagctatg	tgccccatcc	tccttcacgc	cctccctccc	tttcctacca	ctgctgagtg	360
gcctggaact	tgtttaaagt	gt				382

<210> 140

<211> 200

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (200)

<223> n = A,T,C or G

<400> 140

accaaanctt	ctttctgttg	tgtnngattt	tactataggg	gttnngcttn	ttctaaanat	60
acttttcatt	taacancttt	tgtaagtgt	caggctgcac	tttgcctcat	anaattattg	120
ttttcacatt	tcaacttgta	tgtgtttgtc	tcttanagca	ttggtgaaat	cacatatttt	180
atattcagca	taaaggagaa					200

<210> 141

<211> 335

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (335)

<223> n = A,T,C or G

<400> 141

actttatttt	caaaacactc	atatgttgca	aaaaacacat	agaaaaataa	agtttggtgg	60
gggtgctgac	taaacttcaa	gtcacagact	tttatgtgac	agattggagc	agggtttggt	120
atgcatgtag	agaacccaaa	ctaatttatt	aaacaggata	gaaacaggct	gtctgggtga	180
aatggttctg	agaaccatcc	aattcacctg	tcagatgctg	atanactagc	tcttcagatg	240
tttttctacc	agttcagaga	tnggttaatg	actanttcca	atggggaaaa	agcaagatgg	300
attcaciaac	caagtaattt	taaacaaaga	cactt			335

<210> 142

<211> 459

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (459)

<223> n = A,T,C or G

<400> 142

accagggttaa	tattgccaca	tatatacctt	ccaattgcgg	gctaaacaga	cgtgtattta	60
gggttggtta	aagacaaccc	agcttaatat	caagagaaat	tgtgacctt	catggagtat	120
ctgatggaga	aaacactgag	ttttgacaaa	tcttatttta	ttcagatagc	agtctgatca	180
cacatgggtcc	aacaacactc	aaataataaa	tcaaataatna	tcagatgtta	aagattggtc	240
ttcaaacatc	atagccaatg	atgccccgct	tgcctataat	ctctccgaca	taaaaccaca	300
tcaaacacctc	agtggccacc	aaaccattca	gcacagcttc	cttaactgtg	agctgtttga	360
agctaccagt	ctgagcacta	ttgactatnt	ttttcangct	ctgaatagct	ctagggatct	420
cagcanggggt	gggaggaacc	agctcaacct	tggcgctant			459

<210> 143

<211> 140

<212> DNA

<213> Homo sapien

<400> 143

acatttcctt	ccaccaagtc	aggactcctg	gcttctgtgg	gagttcttat	cacctgaggg	60
aaatccaaac	agtctctcct	agaaaggaat	agtgtcacca	acccacacca	tctccctgag	120
accatccgac	tccctgtgt					140

<210> 144

<211> 164

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(164)

<223> n = A,T,C or G

<400> 144

acttcagtaa	caacatacaa	taacaacatt	aagtgtatat	tgccatcttt	gtcattttct	60
atctatacca	ctctcccttc	tgaaaacaan	aatcactanc	caatcactta	tacaaatttg	120
aggcaattaa	tccatatttg	ttttcaataa	ggaaaaaaag	atgt		164

<210> 145

<211> 303

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(303)

<223> n = A,T,C or G

<400> 145

acgtagacca	tccaactttg	tatttgtaat	ggcaaacatc	cagnagcaat	tcctaaacaa	60
actggaggggt	atttataccc	aattatccca	ttcattaaca	tgccctcctc	ctcaggctat	120
gcaggacagc	tatcataagt	cggcccaggc	atccagatac	taccatttgt	ataaacttca	180
gtagggggagt	ccatccaagt	gacaggtcta	atcaaaggag	gaaatggaac	ataagcccag	240
tagtaaaatn	ttgcttagct	gaaacagcca	caaaagactt	accgccgtgg	tgattaccat	300
caa						303

<210> 146

<211> 327
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(327)
 <223> n = A,T,C or G

<400> 146
 actgcagctc aattagaagt ggtctctgac ttatcatcanc ttctccctgg gctccatgac 60
 actggcctgg agtgactcat tgctctgggt gggtgagaga gctcctttgc caacaggcct 120
 ccaagtcagg gctgggattt gtttcctttc cacattctag caacaatatg ctggccactt 180
 cctgaacagg gaggggtggga ggagccagca tggaacaagc tgccactttc taaagtagcc 240
 agacttgccc ctgggcctgt cacacctact gatgaccttc tgtgcctgca ggatggaatg 300
 taggggtgag ctgtgtgact ctatggt 327

<210> 147
 <211> 173
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(173)
 <223> n = A,T,C or G

<400> 147
 acattgtttt ttgagataa agcattgana gagctctcct taacgtgaca caatggaagg 60
 actggaacac ataccacat ctttgttctg agggataatt ttctgataaa gtcttgctgt 120
 atattcaagc acatatgtta tatattattc agttccatgt ttatagccta gtt 173

<210> 148
 <211> 477
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(477)
 <223> n = A,T,C or G

<400> 148
 acaaccactt tatctcatcg aatttttaac ccaaactcac tcactgtgcc tttctatcct 60
 atgggatata ttatttgatg ctccatttca tcacacatat atgaataata cactcatact 120
 gccctactac ctgctgcaat aatcacattc ccttcctgtc ctgacctga agccattggg 180
 gtggctctag tggccatcag tccangcctg caccttgagc ccttgagctc cattgctcac 240
 nccanccac ctcaccgacc ccatcctctt acacagctac ctccttgctc tctaacccca 300
 tagattatnt ccaaattcag tcaattaagt tactattaac actctaccg acatgtccag 360
 caccactggg aagccttctc cagccaacac acacacacac acacncacac acacacatat 420
 ccaggcacag gctacctcat cttcacaaac acccctttaa ttaccatgct atgggtgg 477

<210> 149
 <211> 207
 <212> DNA

<213> Homo sapien

<400> 149

```
acagttgtat tataatatca agaaataaac ttgcaatgag agcatttaag agggaagaac    60
taacgtatatt tagagagcca aggaagggtt ctgtggggag tgggatgtaa ggtggggcct    120
gatgataaat aagagtcagc caggtaagtg ggtggtgtgg tatgggcaca gtgaagaaca    180
tttcaggcag agggaacagc agtgaaa                                         207
```

<210> 150

<211> 111

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(111)

<223> n = A,T,C or G

<400> 150

```
accttgattt cattgctgct ctgatggaaa cccaactatc taatttagct aaaacatggg    60
cacttaaatg tggtcagtgt ttggacttgt taactantgg catctttggg t              111
```

<210> 151

<211> 196

<212> DNA

<213> Homo sapien

<400> 151

```
agcgcggcag gtcatatga acattccaga tacctatcat tactcgatgc tgttgataac    60
agcaagatgg ctttgaactc agggtcacca ccagctattg gaccttacta tgaaaaccat    120
ggataccaac cggaaaaccc ctatcccga cagcccactg tgggtcccccac tgtctacgag    180
gtgcatccgg ctcagt                                                       196
```

<210> 152

<211> 132

<212> DNA

<213> Homo sapien

<400> 152

```
acagcacttt cacatgtaag aaggagagaaa ttcctaaatg taggagaaag ataacagAAC    60
cttccccctt tcatctagtg gtggaaacct gatgctttat gttgacagga atagaaccag    120
gagggagttt gt                                                       132
```

<210> 153

<211> 285

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(285)

<223> n = A,T,C or G

<400> 153

```
acaanaccca nganaggcca ctggccgtgg tgtcatggcc tccaaacatg aaagtgtcag    60
```

```

cttctgctct tatgtcctca tctgacaact ctttaccatt tttatcctcg ctcagcagga      120
gcacatcaat aaagtccaaa gtcttggaact tggccttggc ttggaggaag tcatcaacac      180
cctggctagt gaggggtgcgg cgccgctcct ggatgacggc atctgtgaag tcgtgcacca      240
gtctgcaggc cctgtggaag cgccgtccac acggagtnag gaatt                        285

```

```

<210> 154
<211> 333
<212> DNA
<213> Homo sapien

```

```

<400> 154
accacagtcc tgttggggcca gggcttcatg accctttctg tgaaaagcca tattatcacc      60
accccaaatt tttccttaaa tatctttaac tgaaggggtc agcctcttga ctgcaaagac      120
cctaagccgg ttacacagct aactcccact ggccctgatt tgtgaaattg ctgctgcctg      180
attggcacag gagtcgaagg tggttcagctc cctcctcctg tggaacgaga ctctgatttg      240
agtttcacaa attctcgggc cacctcgtca ttgctcctct gaaataaaat ccggagaatg      300
gtcaggcctg tctcatccat atggatcttc cgg                                333

```

```

<210> 155
<211> 308
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(308)
<223> n = A,T,C or G

```

```

<400> 155
actggaaata ataaaaccca catcacagtg ttgtgtcaaa gatcatcagg gcatggatgg      60
gaaagtgctt tgggaactgt aaagtgccta acacatgac gatgattttt gttataatat      120
ttgaatcacg gtgcatacaa actctcctgc ctgctcctcc tgggccccag cccagcccc      180
atcacagctc actgctctgt tcatccaggc ccagcatgta gtggctgatt cttcttggt      240
gcttttagcc tccanaagtt tctctgaagc caaccaaacc tctangtgta aggcattgctg      300
gccctggg                                308

```

```

<210> 156
<211> 295
<212> DNA
<213> Homo sapien

```

```

<400> 156
accttgctcg gtgcttgga catattagga actcaaaata tgagatgata acagtgccta      60
ttattgatta ctgagagaac tgtagacat ttagttgaag attttctaca caggaactga      120
gaataggaga ttatgtttgg cctcatatt ctctcctatc ctccttgctt cattctatgt      180
ctaatatatt ctcaatcaaa taagggttagc ataatcagga aatcgaccaa ataccaatat      240
aaaaccagat gtctatcctt aagattttca aatagaaaac aaattaacag actat          295

```

```

<210> 157
<211> 126
<212> DNA
<213> Homo sapien

```

```

<400> 157
acaagtttaa atagtgtgt cactgtgcat gtgctgaaat gtgaaatcca ccacatttct      60

```

gaagagcaaa acaaattctg tcatgtaatc tctatcttgg gtcgtgggta tatctgtccc 120
cttagt 126

<210> 158
<211> 442
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(442)
<223> n = A,T,C or G

<400> 158
accactggt cttggaaaca cccatcctta atacgatgat ttttctgtcg tgtgaaaatg 60
aanccagcag gctgccccta gtcagtcctt ccttcagag aaaaagagat ttgagaaagt 120
gcctgggtaa ttcaccatta atttcctccc ccaaactctc tgagtcttcc cttaatattt 180
ctgggtggtc tgaccaaagc aggtcatggt ttgttgagca tttgggatcc cagtgaagta 240
natgtttgta gccttgcata cttagccctt cccacgcaca aacggagtgg cagagtgggtg 300
ccaaccctgt ttcccagtc cacgtagaca gattcacagt gcggaattct ggaagctgga 360
nacagacggg ctctttgcag agccgggact ctgagangga catgagggcc tctgcctctg 420
tgttcattct ctgatgtcct gt 442

<210> 159
<211> 498
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(498)
<223> n = A,T,C or G

<400> 159
acttcaggt aacgttggtt tttccgttga gcctgaactg atgggtgacg ttgtaggttc 60
tccaacaaga actgaggttg cagagcgggt aggggaagagt gctgttccag ttgcacctgg 120
gctgctgtgg actgttggtt attcctcact acggcccaag gttgtggaac tggcanaaag 180
gtgtgtgtgt gganttgagc tcgggcggct gtggtaggtt gtgggtctct caacaggggc 240
tgctgtggtg ccgggangtg aangtggtgt gtcacttgag cttggccagc tctggaaagt 300
antanattct tcctgaaggc cagcgcttgt ggagctggca ngggtcantg ttgtgtgtaa 360
cgaaccagtg ctgctgtggg tgggtgtana tcctccacaa agcctgaagt tatggtgtcn 420
tcaggtaana atgtggtttc agtgtccctg ggcngctgtg gaaggttgta nattgtcacc 480
aagggaataa gctgtggt 498

<210> 160
<211> 380
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(380)
<223> n = A,T,C or G

<400> 160

```

acctgcatcc agcttcacctg ccaaactcac aaggagacat caacctctag acaggggaaac      60
agcttcagga tacttccagg agacagagcc accagcagca aaacaaatat tcccatgcct      120
ggagcatggc atagaggaag ctganaaatg tgggggtctga ggaagccatt tgagtctggc      180
cactagacat ctcatcagcc acttgtgtga agagatgccc catgacccca gatgcctctc      240
ccacccttac ctccatctca cacacttgag ctttccactc tgtataattc taacatcctg      300
gagaaaaatg gcagtttgac cgaacctgtt cacaacggta gaggctgatt tctaacgaaa      360
cttgtagaat gaagcctgga                                     380

```

```

<210> 161
<211> 114
<212> DNA
<213> Homo sapien

```

```

<400> 161
actccacatc ccctctgagc aggcgggtgt cgttcaaggt gtatttggcc ttgcctgtca      60
cactgtccac tggccctta tccacttggt gcttaatccc tcgaaagagc atgt          114

```

```

<210> 162
<211> 177
<212> DNA
<213> Homo sapien

```

```

<400> 162
actttctgaa tcgaatcaaa tgatacttag tgtagtttta atatcctcat atatatcaaa      60
gttttactac tctgataatt ttgtaaacca ggtaaccaga acatccagtc atacagcttt      120
tggtgatata taacttggca ataaccagtc ctggtgatac ataaaactac tcactgt       177

```

```

<210> 163
<211> 137
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(137)
<223> n = A,T,C or G

```

```

<400> 163
catttatata gacaggcgtg aagacattca cgacaaaaac gcgaaattct atcccgtgac      60
canagaaggc agctacggct actcctacat cctggcgtgg gtggccttcg cctgcacctt      120
catcagcggc atgatgt                                     137

```

```

<210> 164
<211> 469
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(469)
<223> n = A,T,C or G

```

```

<400> 164
cttatcacia tgaatgttct cctgggcagc gttgtgatct ttgccacctt cgtgacttta      60
tgcaatgcat catgctatct catacctaata gagggagttc caggagattc aaccaggaaa      120

```

tgcatggatc	tcaaaggaaa	caaacaccca	ataaactcgg	agtggcagac	tgacaactgt	180
gagacatgca	cttgctacga	aacagaaatt	tcatgttgca	cccttgtttc	tacacctgtg	240
ggttatgaca	aagacaactg	ccaaagaatc	ttcaagaagg	aggactgcaa	gtatatcgtg	300
gtggagaaga	aggacccaaa	aaagacctgt	tctgtcagtg	aatggataat	ctaagtgtgt	360
tctagtaggc	acagggtctc	caggccaggc	ctcattctcc	tctggcctct	aatagtcaat	420
gattgtgtag	ccatgcctat	cagtaaaaag	atntttgagc	aaacactttt		469

<210> 165

<211> 195

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(195)

<223> n = A,T,C or G

<400> 165

acagtttttt	atanatatcg	acattgccgg	cacttgtgtt	cagtttcata	aagctgggtg	60
atccgctgtc	atccactatt	ccttggttag	agtaaaaatt	attcttatag	cccatgtccc	120
tgcaggccgc	ccgcccgtag	ttctcgttcc	agtcgtcttg	gcacacaggg	tgccaggact	180
tcctctgaga	tgagt					195

<210> 166

<211> 383

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(383)

<223> n = A,T,C or G

<400> 166

acatcttagt	agtgtggcac	atcagggggc	catcaggggtc	acagtcactc	atagcctcgc	60
cgaggctcga	gtccacacca	ccggtgtagg	tgtgtctaat	cttgggcttg	gcgcccacct	120
ttggagaagg	gatatgctgc	acacacatgt	ccacaaagcc	tgtgaactcg	ccaaagaatt	180
tttgagacc	agcctgagca	aggggaggat	gttcagcttc	agctcctcct	tcgtcagggtg	240
gatgccaacc	tcgtctangg	tccgtgggaa	gctgggtgtcc	acntcaccta	caacctgggc	300
gangatctta	taaagagggt	ccnagataaa	ctccacgaaa	cttctctggg	agctgctagt	360
nggggccttt	ttggtgaact	ttc				383

<210> 167

<211> 247

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(247)

<223> n = A,T,C or G

<400> 167

acagagccag	accttggcca	taaatgaanc	agagattaag	actaaacccc	aagtcganat	60
tggagcagaa	actggagcaa	gaagtgggcc	tggggctgaa	gtagagacca	aggccactgc	120

tatanccata cacagagcca actctcaggc caaggcnatg gttggggcag anccagagac	180
tcaatctgan tccaaagtgg tggctggaac actggctcatg acanaggcag tgactctgac	240
tgangtc	247

<210> 168
 <211> 273
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(273)
 <223> n = A,T,C or G

<400> 168	
acttctaagt tttctagaag tggaaggatt gtantcatcc tgaaaatggg tttacttcaa	60
aatccctcan ccttggttctt cacnactgtc tatactgana gtgtcatggt tccacaaagg	120
gctgacacct gagcctgnat tttcactcat ccctgagaag ccctttccag taggggtgggc	180
aattcccaac ttccttgcca caagcttccc aggctttctc ccctggaaaa ctccagcttg	240
agtcccagat acactcatgg gctgccctgg gca	273

<210> 169
 <211> 431
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(431)
 <223> n = A,T,C or G

<400> 169	
acagccttgg cttccccaaa ctccacagtc tcagtgcaga aagatcatct tccagcagtc	60
agctcagacc aggggtcaaag gatgtgacat caacagtttc tggtttcaga acaggttcta	120
ctactgtcaa atgaccccc atacttcctc aaaggctgtg gtaagttttg cacaggtgag	180
ggcagcagaa aggggggtant tactgatgga caccatcttc tctgtatact ccacactgac	240
cttgccatgg gcaaaggccc ctaccacaaa aacaatagga tcaactgctgg gcaccagctc	300
acgcacatca ctgacaaccg ggatggaaaa agaantgcca actttcatac atccaactgg	360
aaagtgatct gatactggat tcttaattac cttcaaaagc ttctgggggc catcagctgc	420
tcgaacactg a	431

<210> 170
 <211> 266
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(266)
 <223> n = A,T,C or G

<400> 170	
acctgtgggc tgggctgtta tgccgtgtgcc ggctgctgaa agggagttca gaggtggagc	60
tcaaggagct ctgcaggcat tttgccaaanc ctctccanag canagggagc aacctacact	120
ccccgctaga aagacaccag attggagtc tgggaggggg agttgggggtg ggcatttgat	180

gtatacttgt cacctgaatg aangagccag agaggaanga gacgaanatg anattggcct 240
tcaaagctag ggggtctggca ggtgga 266

<210> 171

<211> 1248

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(1248)

<223> n = A,T,C or G

<400> 171

```

ggcagccaaa tcataaacgg cgaggactgc agcccgcact cgcagccctg gcaggcggca      60
ctggtcattg aaaacgaatt gttctgctcg ggcgtcctgg tgcattccgca gtgggtgctg      120
tcagccgcac actgtttcca gaagtgaagt cagagctcct acaccatcgg gctgggcctg      180
cacagtcttg aggccgacca agagccaggg agccagatgg tggaggccag cctctccgta      240
cggcaccag agtacaacag acccttgctc gctaacgacc tcatgctcat caagtgggac      300
gaatccgtgt ccgagtctga caccatccgg agcatcagca ttgcttcgca gtgccctacc      360
gcgggggaact cttgcctcgt ttctggctgg ggtctgctgg cgaacggcag aatgcctacc      420
gtgctgcagt gcgtgaacgt gtcggtgggt tctgaggagg tctgcagtaa gctctatgac      480
ccgctgtacc accccagcat gttctgcgcc ggcggagggc aagaccagaa ggactcctgc      540
aacggtgact ctggggggcc cctgatctgc aacgggtact tgcagggcct tgtgtctttc      600
ggaaaagccc cgtgtggcca agttggcgtg ccagggtgtct acaccaacct ctgcaaattc      660
actgagtggg tagagaaaac cgtccaggcc agttaactct ggggactggg aacccatgaa      720
attgaccccc aaatacatcc tgcggaagga attcaggaat atctgttccc agccccctct      780
ccctcaggcc caggagtcca ggccccccag ccctcctccc tcaaaccaag ggtacagatc      840
cccagcccct cctccctcag acccaggagt ccagaccccc cagccccctc tccctcagac      900
ccaggagtcc agccccctct ccctcagacc caggagtcca gacccccag cccctcctcc      960
ctcagaccca ggggtccagg cccccaaacc ctccctccctc agactcagag gtccaagccc     1020
ccaaccntc attccccaga cccagagggt cagggtcccag cccctcntcc ctcagaccca     1080
gcggtccaat gccacctaga ctntccctgt acacagtgcc cccttgtggc acgttgaccc     1140
aaccttacca gttggttttt catttttngt ccctttcccc tagatccaga aataaagttt     1200
aagagaagng caaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa     1248

```

<210> 172

<211> 159

<212> PRT

<213> Homo sapien

<220>

<221> VARIANT

<222> (1)...(159)

<223> Xaa = Any Amino Acid

<400> 172

```

Met Val Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro
 1              5              10              15
Leu Leu Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser
              20              25              30
Glu Ser Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr
              35              40              45
Ala Gly Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly
 50              55              60

```

Arg Met Pro Thr Val Leu Gln Cys Val Asn Val Ser Val Val Ser Glu
 65 70 75 80
 Glu Val Cys Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe
 85 90 95
 Cys Ala Gly Gly Gly Gln Xaa Gln Xaa Asp Ser Cys Asn Gly Asp Ser
 100 105 110
 Gly Gly Pro Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe
 115 120 125
 Gly Lys Ala Pro Cys Gly Gln Val Gly Val Pro Gly Val Tyr Thr Asn
 130 135 140
 Leu Cys Lys Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Ala Ser
 145 150 155

<210> 173

<211> 1265

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (1265)

<223> n = A,T,C or G

<400> 173

```

ggcagcccgc actcgcagcc ctggcaggcg gcactgggtca tggaaaacga attgttctgc      60
tcgggcgctcc tgggtgcatcc gcagtgggtg ctgtcagccg cacactgttt ccagaactcc      120
tacaccatcg ggctgggcct gcacagtctt gaggccgacc aagagccagg gagccagatg      180
gtggaggcca gcctctccgt acggcaccca gagtacaaca gacccttgct cgctaacgac      240
ctcatgctca tcaagttgga cgaatccgtg tccgagtcgt acaccatccg gagcatcagc      300
attgcttcgc agtgccttac cgcggggaac tcttgccctg tttctggctg gggctctgctg      360
gcgaacgggtg agctcacggg tgtgtgtctg ccctcttcaa ggaggtcctc tgcccagtcg      420
cggggggctga cccagagctc tgcgtcccag gcagaatgcc taccgtgctg cagtgcgtga      480
acgtgtcggg ggtgtctgag gaggtctgca gtaagctcta tgaccgctg taccacccca      540
gcatgttctg cgccggcgga gggcaagacc agaaggactc ctgcaacggg gactctgggg      600
ggcccctgat ctgcaacggg tacttgccagg gccttgtgtc tttcggaaaa gcccctgtgtg      660
gccaagttgg cgtgccaggg gtctacacca acctctgcaa attcactgag tggatagaga      720
aaaccgtcca ggccagttaa ctctggggac tgggaaccca tgaaattgac ccccaaatac      780
atcctgcgga aggaattcag gaatatctgt tcccagcccc tcctccctca ggcccaggag      840
tccaggcccc cagcccctcc tccctcaaac caagggatca gatccccagc ccctcctccc      900
tcagaccagc gagtccagac cccccagccc ctccctccctc agaccagga gtccagcccc      960
tcctccntca gaccaggag tccagacccc ccagcccctc ctccctcaga cccaggggtt     1020
gaggcccca acccctcctc cttcagagtc agaggtccaa gcccacaacc cctcgttccc     1080
cagaccaga ggttnaggte ccagcccctc ttcntcaga cccagnggtc caatgccacc     1140
tagattttcc ctgnacacag tgcccccttg tggngangtg acccaacctt accagttggt     1200
ttttcatttt tngtcccttt cccctagatc cagaaataaa gtttaagaga ngngcaaaaa     1260
aaaaa                                           1265

```

<210> 174

<211> 1459

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (1459)

<223> n = A,T,C or G

<400> 174

gggcagccgc	acactgtttc	cagaagtgcg	tgcagagctc	ctacaccatc	gggctgggcc	60
tgcacagtct	tgaggccgac	caagagccag	ggagccagat	ggtggaggcc	agcctctccg	120
tacggcacc	agagtacaac	agacccttgc	tcgctaacga	cctcatgctc	atcaagtgtg	180
acgaatccgt	gtccgagtct	gacaccatcc	ggagcatcag	cattgcttcg	cagtgcccta	240
ccgcggggaa	ctcttgccct	gtttctggct	ggggtctgct	ggcgaacggt	gagctcacgg	300
gtgtgtgtct	gccctcttca	aggaggtcct	ctgccagctc	gcgggggctg	acccagagct	360
ctgcgtccca	ggcagaatgc	ctaccgtgct	gcagtgcgtg	aacgtgtcgg	tgggtgtctga	420
ngaggtctgc	antaagctct	atgacccgct	gtaccacccc	ancatgttct	gcgcggcg	480
agggcaagac	cagaaggact	cctgcaacgt	gagagagggg	aaaggggagg	gcaggcgact	540
cagggaaagg	tggagaagg	ggagacagag	acacacaggg	ccgcatggcg	agatgcagag	600
atggagagac	acacagggag	acagtgacaa	ctagagagag	aaactgagag	aaacagagaa	660
ataaacacag	gaataaagag	aagcaaagga	agagagaaac	agaaacagac	atggggaggc	720
agaaacacac	acacatagaa	atgcagttga	ccttccaaca	gcatggggcc	tgagggcggt	780
gacctccacc	caatagaaaa	tcctcttata	acttttgact	ccccaaaaac	ctgactagaa	840
atagcctact	gttgacgggg	agccttaoca	ataacataaa	tagtcgattt	atgcatacgt	900
tttatgcatt	catgatatac	ctttgttggg	attttttgat	atttctaagc	tacacagttc	960
gtctgtgaat	ttttttaaat	tggtgcaact	ctcctaaaat	ttttctgatg	tgtttattga	1020
aaaaatccaa	gtataagtgg	acttgtgcat	tcaaaccagg	gttgttcaag	ggtcaactgt	1080
gtaccagag	ggaaacagtg	acacagattc	atagaggtga	aacacgaaga	gaaacaggaa	1140
aatcaagac	tctacaaaga	ggctgggcag	ggtgggtga	gcctgtaact	ccagcacttt	1200
gggaggcgag	gcaggcagat	cacttgaggt	aaggagttca	agaccagcct	ggccaaaatg	1260
gtgaaatcct	gtctgtacta	aaaatacaaa	agttagctgg	atatggtggc	aggcgctgt	1320
aatcccagct	acttgggagg	ctgaggcagg	agaattgctt	gaatatggga	ggcagaggtt	1380
gaagtgaagt	gagatcacac	cactatactc	cagctggggc	aacagagtaa	gactctgtct	1440
caaaaaaaaa	aaaaaaaaaa					1459

<210> 175

<211> 1167

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(1167)

<223> n = A,T,C or G

<400> 175

gcgcagccct	ggcaggcgcc	actggctcatg	gaaaacgaat	tggtctgctc	gggcgtcctg	60
gtgcatccgc	agtgggtgct	gtcagccgca	cactgtttcc	agaactccta	caccatcggg	120
ctgggcctgc	acagtcttga	ggccgaccaa	gagccagggg	gccagatggg	ggaggccagc	180
ctctccgtac	ggcacccaga	gtacaacaga	ctcttgctcg	ctaacgacct	catgctcatc	240
aagttggacg	aatccgtgtc	cgagtctgac	accatccgga	gcacagcat	tgcttcgcag	300
tgccctaccg	cggggaactc	ttgcctcgtn	tctggctggg	gtctgctggc	gaacggcaga	360
atgcctaccg	tgctgcactg	cgtgaacgtg	tcgggtggtg	ctgaggangt	ctgcagtaag	420
ctctatgacc	cgctgtacca	ccccagcatg	ttctgcgccc	gcggaggggc	agaccagaag	480
gactcctgca	acggtgactc	tggggggccc	ctgatctgca	acgggtactt	gcagggcctt	540
gtgtctttcg	gaaaagcccc	gtgtggccaa	cttggcgtgc	caggtgtcta	caccaacctc	600
tgcaaatcca	ctgagtggat	agagaaaacc	gtccagncca	gttaactctg	gggactggga	660
acccatgaaa	ttagccccc	aatacatcct	gcggaangaa	ttcaggaata	tctgttcccc	720
gcccctcctc	ctcaggccc	aggagtccag	gccccagcc	cctcctccct	caaaccaagg	780
gtacagatcc	ccagcccctc	ctccctcaga	cccaggagtc	cagaccccc	agccccctnt	840
ccntcagacc	caggagtcca	gcccctcctc	cntcagacgc	aggagtccag	acccccccagc	900

```

ccntcntccg tcagacccag ggggtgcaggc ccccaacccc tcntccntca gagtcagagg      960
tccaagcccc caacccctcg ttccccagac ccagaggtnc aggtcccagc cctcctccc      1020
tcagacccag cgggtccaatg ccacctagan tntccctgta cacagtggcc ccttggtggca      1080
ngttgaccca accttaccag ttgggttttcc attttttgtc cctttcccct agatccagaa      1140
ataaagtnta agagaagcgc aaaaaaa      1167

```

<210> 176
 <211> 205
 <212> PRT
 <213> Homo sapien

<220>
 <221> VARIANT
 <222> (1)...(205)
 <223> Xaa = Any Amino Acid

```

<400> 176
Met Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp
 1          5          10          15
Val Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu
          20          25          30
Gly Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val
          35          40          45
Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Leu Leu Leu
          50          55          60
Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser
          65          70          75          80
Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly
          85          90          95
Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly Arg Met
          100          105          110
Pro Thr Val Leu His Cys Val Asn Val Ser Val Val Ser Glu Xaa Val
          115          120          125
Cys Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe Cys Ala
          130          135          140
Gly Gly Gly Gln Asp Gln Lys Asp Ser Cys Asn Gly Asp Ser Gly Gly
          145          150          155          160
Pro Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe Gly Lys
          165          170          175
Ala Pro Cys Gly Gln Leu Gly Val Pro Gly Val Tyr Thr Asn Leu Cys
          180          185          190
Lys Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Xaa Ser
          195          200          205

```

<210> 177
 <211> 1119
 <212> DNA
 <213> Homo sapien

```

<400> 177
gcgcactcgc agccctggca ggcggcactg gtcattgaaa acgaattggt ctgctcgggc      60
gtcctgggtgc atccgcagtg ggtgctgtca gccgcacact gtttccagaa ctctacacc      120
atcgggctgg gcctgcacag tcttgaggcc gaccaagagc cagggagcca gatgggtggag      180
gccagcctct ccgtacggca cccagagtac aacagaccct tgctcgctaa cgacctcatg      240
ctcatcaagt tggacgaatc cgtgtccgag tctgacacca tccggagcat cagcattgct      300

```

```

tcgcagtgcc ctaccgcggg gaactcttgc ctcgtttctg gctgggggtct gctggcgaac 360
gatgctgtga ttgccatcca gtcccagact gtgggaggct gggagtgtga gaagctttcc 420
caaccctggc aggggtgtac catttcggca acttccagtg caaggacgtc ctgctgcatc 480
ctcactgggt gctcactact gctcactgca tcacccggaa cactgtgata aactagccag 540
caccatagtt ctccgaagtc agactatcat gattactgtg ttgactgtgc tgtctattgt 600
actaaccatg ccgatgttta ggtgaaatta gcgtcacttg gcctcaacca tcttggtatc 660
cagttatcct cactgaattg agatttcctg cttcagtgtc agccattccc acataatttc 720
tgacctacag aggtgagggg tcatatagct cttcaaggat gctggtactc ccctcacaaa 780
ttcattttctc ctggtttagt gaaaggtgcg cctctggag cctcccaggg tgggtgtgca 840
ggtcacaatg atgaatgtat gatcgtgttc ccattaccca aagcctttaa atccctcatg 900
ctcagtacac cagggcaggt ctagcatttc ttcatttagt gtatgctgtc cattcatgca 960
accacctcag gactcctgga ttctctgcct agttgagctc ctgcatgctg cctccttggg 1020
gaggtgaggg agagggccca tggttcaatg ggatctgtgc agttgtaaca cattaggtgc 1080
ttaataaaca gaagctgtga tgttaaaaaa aaaaaaaaaa 1119

```

<210> 178

<211> 164

<212> PRT

<213> Homo sapien

<220>

<221> VARIANT

<222> (1) ... (164)

<223> Xaa = Any Amino Acid

<400> 178

```

Met Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp
 1          5          10          15
Val Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu
          20          25          30
Gly Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val
          35          40          45
Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro Leu Leu
          50          55          60
Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser
          65          70          75          80
Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly
          85          90          95
Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Asp Ala Val
          100          105          110
Ile Ala Ile Gln Ser Xaa Thr Val Gly Gly Trp Glu Cys Glu Lys Leu
          115          120          125
Ser Gln Pro Trp Gln Gly Cys Thr Ile Ser Ala Thr Ser Ser Ala Arg
          130          135          140
Thr Ser Cys Cys Ile Leu Thr Gly Cys Ser Leu Leu Leu Thr Ala Ser
          145          150          155          160
Pro Gly Thr Leu

```

<210> 179

<211> 250

<212> DNA

<213> Homo sapien

<400> 179

ctggagtgcc	ttggtgtttc	aagcccctgc	aggaagcaga	atgcaccttc	tgaggcacct	60
ccagctgccc	ccggccgggg	gatgcgaggc	tcggagcacc	cttgcccggc	tgtgattgct	120
gccaggcact	gttcattctca	gctttttctgt	cccttttgctc	ccggcaagcg	cttctgctga	180
aagttcatat	ctggagcctg	atgtcttaac	gaataaaggt	cccattgctcc	acccgaaaaa	240
aaaaaaaaaa						250

<210> 180

<211> 202

<212> DNA

<213> Homo sapien

<400> 180

actagtccag	tgtggtggaa	ttccattgtg	ttggggcccaa	cacaatgggt	acctttaaca	60
tcacccagac	cccggcccctg	cccgtgcccc	acgtgctgc	taacgacagt	atgatgctta	120
ctctgctact	cggaaactat	ttttatgtaa	ttaatgtatg	ctttcttggt	tataaatgcc	180
tgatttataa	aaaaaaaaaa	aa				202

<210> 181

<211> 558

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(558)

<223> n = A,T,C or G

<400> 181

tccytttght	naggtttkkg	agacamccck	agacctwaan	ctgtgtcaca	gacttcyngg	60
aatgttttagg	cagtgttagt	aatttcytcg	taatgattct	gttattactt	tcctnattct	120
ttattcctct	ttcttctgaa	gattaatgaa	gttgaaaatt	gaggtggata	aatacaaaaa	180
ggtagtgtga	tagtataagt	atctaagtgc	agatgaaagt	gtgttatata	tatccattca	240
aaattatgca	agtttagta	tactcagggt	taactaaatt	actttaatat	gctgttgaac	300
ctactctggt	ccttggctag	aaaaaattat	aaacaggact	ttgttagttt	gggaagccaa	360
attgataata	ttctatgttc	taaaagttgg	gctatacata	aattattaag	aaatatggaw	420
ttttattccc	aggaatatgg	kgttcatttt	atgaatatta	cscrggatag	awgtwtgagt	480
aaaaycagtt	ttggtwaata	ygtwaatatg	tcmtaaataa	acaakgcttt	gacttatttc	540
caaaaaaaaa	aaaaaaaaa					558

<210> 182

<211> 479

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(479)

<223> n = A,T,C or G

<400> 182

acagggwttk	grggatgcta	agscclccrga	rwtygtttga	tccaaccctg	gcttwttttc	60
agaggggaaa	atggggccta	gaagttacag	mscatytagy	tggtgcmgtg	gcacccctgg	120
cstcacacag	astccccagt	agctgggact	acaggcacac	agtcactgaa	gcaggccctg	180
ttwgcaattc	acgttgccac	ctccaactta	aacattcttc	atatgtgatg	tccttagtca	240
ctaagggttaa	actttcccac	ccagaaaagg	caacttagat	aaaatcttag	agtactttca	300

tactmttcta	agtcctcttc	cagcctcact	kkgagtcctm	cytggggggtt	gataggaant	360
ntctcttggc	tttctcaata	aartctctat	ycatctcatg	tttaatttgg	tacgcatara	420
awtgstgara	aaattaaaat	gttctgggty	macttttaaaa	araaaaaaaa	aaaaaaaaa	479

<210> 183

<211> 384

<212> DNA

<213> Homo sapien

<400> 183

aggcgggagc	agaagctaaa	gccaaagccc	aagaagagtg	gcagtgccag	cactgggtgcc	60
agtaccagta	ccaataacag	tgccagtgcc	agtgccagca	ccagtgggtgg	cttcagtgtct	120
ggtgccagcc	tgaccgccac	tctcacattt	gggctcttcg	ctggccttgg	tggagctgggt	180
gccagcacca	gtggcagctc	tgggtgcctgt	ggtttctcct	acaagtgaga	ttttagatat	240
tgtaatcct	gccagtcttt	ctcttcaagc	caggggtgcat	cctcagaaac	ctactcaaca	300
cagcactcta	ggcagccact	atcaatcaat	tgaagttgac	actctgcatt	aratctattt	360
gccatttcaa	aaaaaaaaaa	aaaa				384

<210> 184

<211> 496

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(496)

<223> n = A,T,C or G

<400> 184

accgaattgg	gaccgctggc	ttataagcga	tcatgtyynt	ccrgtatcac	ctcaacgagc	60
aggagagatcg	agtctatacg	ctgaagaaat	ttgacccgat	gggacaacag	acctgtctcag	120
cccatcctgc	tcggttctcc	ccagatgaca	aatactctsg	acaccgaatc	accatcaaga	180
aacgcttcaa	ggtgtctcatg	accagcaaac	cgcgccctgt	cctctgaggg	tcccttaaac	240
tgatgtcttt	tctgccacct	gttacccttc	ggagactccg	taaccaaaact	cttcggactg	300
tgagccctga	tgcctttttg	ccagccatac	tctttggcat	ccagtctctc	gtggcgattg	360
attatgcttg	tgtgaggcaa	tcatgggtggc	atcacccata	aagggaacac	atttgacttt	420
tttttctcat	attttaaatt	actacmagaw	tattwmagaw	waaatgawtt	gaaaaactst	480
taaaaaaaaa	aaaaaa					496

<210> 185

<211> 384

<212> DNA

<213> Homo sapien

<400> 185

gctggtagcc	tatggcgkgg	cccacggagg	ggctcctgag	gccacggrac	agtgacttcc	60
caagtatcyt	gcgcsgcgtc	ttctaccgtc	cctacctgca	gatcttcggg	cagattcccc	120
aggaggacat	ggacgtggcc	ctcatggagc	acagcaactg	yticgtcggag	cccggcttct	180
gggcacaccc	tcctggggcc	caggcgggca	cctgcgtctc	ccagtatgcc	aactggctgg	240
tggtgctgct	cctcgtcatc	ttcctgctcg	tggccaacat	cctgctggtc	aacttgctca	300
ttgccatgtt	cagttacaca	ttcggcaaag	tacagggcaa	cagcgatctc	tactgggaag	360
gcgcagcgtt	accgcctcat	ccgg				384

<210> 186

<211> 577

<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1) ... (577)
<223> n = A,T,C or G

<400> 186

gagttagctc	ctccacaacc	ttgatgaggt	cgctctgcagt	ggcctctcgc	ttcataccgc	60
tnccatcgtc	atactgtagg	tttgccacca	cytcctggca	tcttggggcg	gcntaatatt	120
ccaggaaact	ctcaatcaag	tcaccgtcga	tgaaacctgt	gggctgggtc	tgtcttccgc	180
tcggtgtgaa	aggatctccc	agaaggagtg	ctcgatcttc	cccacacttt	tgatgacttt	240
attgagtcga	ttctgcatgt	ccagcaggag	gttgtaccag	ctctctgaca	gtgaggtcac	300
cagccctatc	atgccgttga	mcgtgccgaa	garcaccgag	ccttgtgtgg	gggkkgaaat	360
ctcaccacga	ttctgcatta	ccagagagcc	gtggcaaaaag	acattgacaa	actcgcccag	420
gtggaaaaag	amcamctcct	ggargtgctn	gccgctcctc	gtcmgttggt	ggcagcgctw	480
tccttttgac	acacaaacaa	gttaaaggca	ttttcagccc	ccagaaantt	gtcatcatcc	540
aagatntcgc	acagcactna	tccagttggg	attaaat			577

<210> 187
<211> 534
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1) ... (534)
<223> n = A,T,C or G

<400> 187

aacatcttcc	tgtataatgc	tgtgtaatat	cgatccgatn	ttgtctgstg	agaatycatw	60
actkggaaaa	gmaacattaa	agcctggaca	ctgggtattaa	aattcacaat	atgcaacact	120
ttaaacagtg	tgtcaatctg	ctcccyynac	tttgtcatca	ccagtctggg	aakaagggta	180
tgccctattc	acacctgtta	aaagggcgct	aagcattttt	gattcaacat	cttttttttt	240
gacacaagtc	cgaaaaaagc	aaaagtaaac	agttatyaat	ttgttagcca	attcactttc	300
ttcatgggac	agagccatyt	gatttaaaaa	gcaaattgca	taatattgag	cttygggagc	360
tgatatttga	gcggaagagt	agccttttcta	cttcaccaga	cacaactccc	tttcatattg	420
ggatgttnac	naaagtwtatg	tctctwacag	atgggatgct	tttgtggcaa	ttctgttctg	480
aggatctccc	agtttattta	ccacttgcac	aagaaggcgt	tttcttcctc	aggc	534

<210> 188
<211> 761
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1) ... (761)
<223> n = A,T,C or G

<400> 188

agaaaccagt	atctctnaaa	acaacctctc	ataccttggtg	gacctaat	ttgtgtgcgtg	60
tgtgtgtgcg	cgcattattat	atagacaggc	acatcttttt	tactttttgta	aaagcttatg	120
cctctttggg	atctatatct	gtgaaagttt	taatgatctg	ccataatgtc	ttggggacct	180

ttgtcttctg	tgtaaattggt	actagagaaa	acacctatnt	tatgagtcaa	tctagttngt	240
tttattcgac	atgaaggaaa	tttccagatn	acaacactna	caaactctcc	ctkgackarg	300
ggggacaaaag	aaaagcaaaa	ctgamcataa	raaacaatwa	cctggtgaga	arttgcataa	360
acagaaatwr	ggtagtatat	tgaarnacag	catcattaaa	rmgttwtktt	wtctctccctt	420
gcaaaaaaca	tgtaacngact	tcccgttgag	taatgccaaag	ttgttttttt	tatnataaaa	480
cttgcccttc	attacatggt	tnaaagtggg	gtggtggggc	aaaatattga	aatgatggaa	540
ctgactgata	aagctgtaca	aataagcagt	gtgcctaaca	agcaacacag	taatgttgac	600
atgcttaatt	cacaaatgct	aatttcatta	taaatgtttg	ctaaaataca	ctttgaacta	660
tttttctgtg	ttcccagagc	tgagatntta	gattttatgt	agtatnaagt	gaaaaantac	720
gaaaataata	acattgaaga	aaaananaaa	aaanaaaaaa	a		761

<210> 189

<211> 482

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(482)

<223> n = A,T,C or G

<400> 189

tttttttttt	tttgcgatn	ctactatttt	attgcaggan	gtgggggtgt	atgcaccgca	60
caccgggggt	atnagaagca	agaaggaagg	agggagggca	cagccccttg	ctgagcaaca	120
aagccgcctg	ctgccttctc	tgtctgtctc	ctggtgcagg	cacatgggga	gaccttcccc	180
aaggcagggg	ccaccagtec	aggggtggga	atacaggggg	tgggangtgt	gcataagaag	240
tgataggcac	aggccacccg	gtacagaccc	ctcggtcct	gacaggtnga	tttcgaccag	300
gtcattgtgc	cctgcccagg	cacagcgtn	atctggaaaa	gacagaatgc	tttccttttc	360
aaatttggt	ngtcatngaa	ngggcanttt	tccaanttng	gctnggtcct	ggtacncttg	420
gttcggccca	gctccncgtc	caaaaantat	tcaccnct	ccnaattgct	tgcnggnccc	480
cc						482

<210> 190

<211> 471

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(471)

<223> n = A,T,C or G

<400> 190

tttttttttt	ttttaaaaca	gtttttcaca	acaaaattta	ttagaagaat	agtgggttttg	60
aaaactctcg	catccagtga	gaactacat	acaccacatt	acagctngga	atgtntctca	120
aatgtctggt	caaatgatac	aatggaacca	ttcaatctta	cacatgcacg	aaagaacaag	180
cgtttttgac	atacaatgca	caaaaaaaaa	aggggggggg	gaccacatgg	attaaaattt	240
taagtactca	tcacatacat	taagacacag	ttctagtcca	gtcnaaaatc	agaactgcnt	300
tgaaaaattt	catgtatgca	atccaaccaa	agaacttnat	tggtgatcat	gantnctcta	360
ctacatcnac	cttgatcatt	gccaggaacn	aaaagttnaa	ancacncngt	acaaaaanaa	420
tctgtaattn	anttcaacct	ccgtacngaa	aaatnttnnt	tatacactcc	c	471

<210> 191

<211> 402

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(402)

<223> n = A,T,C or G

<400> 191

gagggattga	aggtctgttc	tastgtcggm	ctgttcagcc	accaactcta	acaagttgct	60
gtcttccact	cactgtctgt	aagcttttta	acccagacwg	tatcttcata	aatagaacaa	120
attcttcacc	agtcacatct	tctaggacct	tttttgattc	agttagtata	agctcttcca	180
cttcctttgt	taagacttca	tctggtaaag	tcttaagttt	tgtagaaagg	aattyaattg	240
ctcgttctct	aacaatgtcc	tctccttgaa	gtatttggct	gaacaacca	cctaaagtcc	300
ctttgtgcat	ccattttaaa	tatacttaat	agggcattgk	tncactaggt	taaattctgc	360
aagagtcatc	tgtctgcaaa	agttgcgtta	gtatatctgc	ca		402

<210> 192

<211> 601

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(601)

<223> n = A,T,C or G

<400> 192

gagctcggat	ccaataatct	ttgtctgagg	gcagcacaca	tatncagtgc	catggnaact	60
ggtctacccc	acatgggagc	agcatgccgt	agntatataa	ggtcattccc	tgagtcagac	120
atgcytyttt	gaytaccgtg	tgccaagtgc	tggtgattct	yaacacacyt	ccatcccgyt	180
cttttgtgga	aaaactggca	cttkctctgga	actagcarga	catcacttac	aaattcacc	240
acgagacact	tgaaggtgt	aacaaagcga	ytcttgcat	gctttttgtc	cctccggcac	300
cagttgtcaa	tactaaccg	ctggtttgcc	tccatcacat	ttgtgatctg	tagctctgga	360
tacatctcct	gacagtactg	aagaacttct	tcttttgttt	caaaagcarc	tcttggtgcc	420
tggttgatca	ggttcccat	tcccagtcyg	aatgttcaca	tggcatattt	wacttcccac	480
aaaacattgc	gatttgaggc	tcagcaacag	caaatcctgt	tccggcattg	gctgcaagag	540
cctcgatgta	gccggccagc	gccaaaggcag	gcgccgtgag	ccccaccagc	agcagaagca	600
g						601

<210> 193

<211> 608

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(608)

<223> n = A,T,C or G

<400> 193

atacagccca	natccccacca	cgaagatgcg	cttggttgact	gagaacctga	tgcggtcact	60
ggtccccgtg	tagccccagc	gactctccac	ctgctggaag	cggttgatgc	tgactctytt	120
cccaacgcag	gcagmagcgg	gscgggtcaa	tgaactccay	tcgtggcttg	gggtkgacgg	180
tkaagtgcag	gaagaggctg	accacctcgc	ggtccaccag	gatgcccagc	tgtgcggggac	240
ctgcagcgaa	actcctcgat	ggatcatgagc	gggaagcgaa	tgaggcccag	ggccttgccc	300

```

agaaccttcc gcctgttctc tggcgctcacc tgcagctgct gccgctgaca ctccggcctcg      360
gaccagcgga caaacggcrt tgaacagccg cacctcacgg atgcccagtg tgtcgcgctc      420
caggammgsc accagcgtgt ccaggtcaat gtcggtgaag ccctccgcgg gtrtatggcgt      480
ctgcagtgtt tttgtcgatg ttctccaggc acaggctggc cagctgcggg tcatcgaaga      540
gtcgcgcctg cgtgagcagc atgaaggcgt tgtcggctcg cagttcttct tcaggaactc      600
cacgcaat                                         608

```

<210> 194

<211> 392

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(392)

<223> n = A,T,C or G

<400> 194

```

gaacggctgg accttgccctc gcattgtgct tgctggcagg gaataccttg gcaagcagyt      60
ccagtccgag cagccccaga ccgctgccgc ccgaagctaa gcctgcctct ggccttcccc      120
tccgcctcaa tgcagaacca gtagtgggag cactgtgttt agagttaaga gtgaacactg      180
tttgatttta cttgggaatt tcctctgtta tatagctttt cccaatgcta atttccaaac      240
aacaacaaca aaataacatg tttgcctggt aagttgtata aaagtaggtg attctgtatt      300
taaagaaaat attactgtta catatactgc ttgcaatttc tgtatttatt gktnctstgg      360
aaataaatat agttattaaa gggtgtcant cc                                         392

```

<210> 195

<211> 502

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(502)

<223> n = A,T,C or G

<400> 195

```

ccsttkgagg ggtkaggkyc cagttyccga gtggaagaaa caggccagga gaagtgcgtg      60
ccgagctgag gcagatgttc ccacagtga cccagagacc stgggstata gtytctgacc      120
cctcncaagg aaagaccacs ttctggggac atgggctgga gggcaggacc tagaggcacc      180
aaggggaaggc ccattccgg ggstgttccc cgaggaggaa ggggaaggggc tctgtgtgcc      240
ccccasgagg aagaggccct gagtcctggg atcagacacc ccttcacgtg tatccccaca      300
caaatgcaag ctcaccaagg tcccctctca gtcccccttc stacaccctg amcgggccact      360
gscscacacc caccagagc acgccacccg ccatggggar tgtgctcaag gartcgcngg      420
gcarcgtgga catctngtcc cagaaggggg cagaatctcc aatagangga ctgarcmstt      480
gctnanaaaa aaaaanaaaa aa                                         502

```

<210> 196

<211> 665

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(665)

<223> n = A,T,C or G

<400> 196

ggttacttgg	tttcattgcc	accacttagt	ggatgtcatt	tagaaccatt	ttgtctgctc	60
cctctggaag	ccttgccgag	agcggacttt	gtaattgttg	gagaataact	gctgaatttt	120
wagctgtttk	gagttgatts	gcaccactgc	accacaaact	tcaatatgaa	aacyawttga	180
actwatttat	tatcttgtga	aaagtataac	aatgaaaatt	ttgttcatac	tgtattkac	240
aagtatgatg	aaaagcaawa	gatatatatt	cttttattat	gttaaattat	gattgccatt	300
attaatcggc	aaaatgtgga	gtgtatgttc	ttttcacagt	aatatatgcc	ttttgtaact	360
tcacttggtt	attttattgt	aaatgartta	caaaattctt	aatttaagar	aatgggatgt	420
watatttatt	tcattaattt	ctttcctkgt	ttacgtwaat	tttgaaaaga	wtgcatgatt	480
tcttgacaga	aatcgatctt	gatgctgtgg	aagtagtttg	accacatcc	ctatgagttt	540
ttcttagaat	gtataaaggt	tgtagcccat	cnaacttcaa	agaaaaaat	gaccacatac	600
tttgcaatca	ggctgaaatg	tggcatgctn	ttctaattcc	aactttataa	actagcaaan	660
aagtg						665

<210> 197

<211> 492

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (492)

<223> n = A,T,C or G

<400> 197

tttntttttt	ttttttttgc	aggaaggatt	ccatttattg	tggatgcatt	ttcacaatat	60
atgtttattg	gagcgatcca	ttatcagtga	aaagtatcaa	gtgtttataa	natttttagg	120
aaggcagatt	cacagaacat	gctngtcngc	ttgcagtttt	acctcgatana	gatnacagag	180
aattatagtc	naaccagtaa	acnaggaatt	tacttttcaa	aagattaaat	ccaaactgaa	240
caaaattcta	ccctgaaact	tactccatcc	aaatattgga	ataanagtca	gcagtgatag	300
attctcttct	gaacttttaga	ttttctagaa	aaatatgtaa	tagtgatcag	gaagagctct	360
tgttcaaaag	tacaacnaag	caatgttccc	ttaccatagg	ccttaattca	aactttgatc	420
catttcactc	ccatcacggg	agtcaatgct	acctgggaca	cttgtatttt	gttcatnctg	480
ancntggctt	aa					492

<210> 198

<211> 478

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (478)

<223> n = A,T,C or G

<400> 198

tttnttttgn	atttcantct	gtannaanta	ttttcattat	gtttattana	aaaatatnaa	60
tgnttccacn	acaaatcatn	ttacntnagt	aagaggccan	ctacattgta	caacatacac	120
tgagtatatt	ttgaaaagga	caagttttaa	gtanacncat	attgccganc	atancacatt	180
tatacatggc	ttgattgata	tttagcacag	canaaaactga	gtgagttacc	agaaanaaat	240
nataatgtc	aatcngattt	aagatacaaa	acagatccta	tggtacatan	catcntgtag	300
gagttgtggc	tttatgttta	ctgaaagtca	atgcagttcc	tgtacaaaga	gatggccgta	360
agcattctag	tacctctact	ccatgggttaa	gaatcgtaca	cttatgttta	catatgtnta	420

gggtaagaat tgtgttaagt naanttatgg agaggtccan gagaaaaatt tgatncaa 478

<210> 199
 <211> 482
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(482)
 <223> n = A,T,C or G

<400> 199
 agtgacttgt cctccaacaa aacccttga tcaagtttgt ggcaactgaca atcagaccta 60
 tgctagttcc tgtcatctat tcgctactaa atgcagactg gaggggacca aaaaggggca 120
 tcaactccag ctggattatt ttggagcctg caaatctatt cctacttgta cggactttga 180
 agtgattcag tttcctctac ggatgagaga ctgggtcaag aatatacctca tgcagcttta 240
 tgaagccnac tctgaacacg ctggttatct nagatgagaa ncagagaaat aaagtcnaga 300
 aaatttacct ggangaaaag aggctttngg ctggggacca tcccattgaa ccttctctta 360
 anggacttta agaanaaact accacatgtn tgtngtatec tgggtgccngg ccgtttantg 420
 aacntngacn ncacccttnt ggaatanant cttgacngcn tcctgaactt gtcctctgc 480
 ga 482

<210> 200
 <211> 270
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(270)
 <223> n = A,T,C or G

<400> 200
 cggccgcaag tgcaactcca gctggggccg tgcggacgaa gattctgcca gcagttggtc 60
 cgactgcgac gacggcggcg gcgacagtcg caggtgcagc gcgggcgcct ggggtcctgc 120
 aaggctgagc tgacgccgca gaggtcgtgt cacgtcccac gaccttgacg ccgtcgggga 180
 cagccggaac agagcccggt gaangcggga ggcctcgggg agcccctcgg gaagggcggc 240
 ccgagagata cgcaggtgca ggtggccgcc 270

<210> 201
 <211> 419
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(419)
 <223> n = A,T,C or G

<400> 201
 tttttttttt ttttggaaac tactgagagc acagcaggtc agcaacaagt ttattttgca 60
 gctagcaagg taacagggta gggcatggtt acatgttcag gtcaacttcc tttgtcgtgg 120
 ttgattgggt tgtctttatg ggggcggggt ggggtagggg aaancgaagc anaantaaca 180
 tggagtgggt gcaccctccc tgtagaacct gggttacnaaa gcttggggca gttcacctgg 240

tctgtgaccg	tcattttctt	gacatcaatg	ttattagaag	tcaggatata	ttttagagag	300
tccactgtnt	ctggagggag	attaggggtt	cttgccaana	tccaancaaa	atccacntga	360
aaaagttgga	tgatncangt	acngaatacc	ganggcatan	ttctcatant	cggaggcca	419

<210> 202

<211> 509

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(509)

<223> n = A,T,C or G

<400> 202

tttntttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	60
tggcacttaa	tccattttta	tttcaaaatg	tctacaaant	ttnaatncnc	cattatacng	120
gtntttttnc	aaaatctaaa	nnttattcaa	atntnagcca	aantccttac	ncaaattnaa	180
tacnncnaaa	aatcaaaaat	atacntntct	ttcagcaaac	ttngttacat	aaattaaaaa	240
aatatatacg	gctgggtgtt	tcaaagtaca	attatcttaa	cactgcaaac	atnttttnaa	300
ggaactaaaa	taaaaaaaaa	cactnccgca	aagggttaaag	ggaacaacaa	attcntttta	360
caacancnnc	nattataaaa	atcatatctc	aaatcttagg	ggaatatata	cttcacacng	420
ggatcttaac	ttttactnca	ctttgtttat	ttttttanaa	ccattgtntt	gggcccaca	480
caatggnaat	nccnccnnc	tggactagt				509

<210> 203

<211> 583

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(583)

<223> n = A,T,C or G

<400> 203

tttttttttt	ttttttttga	ccccctctt	ataaaaaaca	agttaccatt	ttattttact	60
tacacataat	tattttataa	ttggtattag	atattcaaaa	ggcagctttt	aaaatcaaac	120
taaatggaaa	ctgccttaga	tacataattc	ttaggaatta	gcttaaaatc	tgccataaag	180
gaaaatcttc	tctagctctt	ttgactgtaa	atttttgact	cttgtaaaac	atccaaattc	240
atttttcttg	tctttaaaat	tatctaattc	ttccattttt	tccctattcc	aagtcaattt	300
gcttctctag	cctcatttcc	tagctcttat	ctactattag	taagtggctt	tttccctaaa	360
aggggaaaaca	ggaagagana	atggcacaca	aaacaaacat	tttatattca	tatttctacc	420
tacgttaata	aaatagcatt	ttgtgaagcc	agctcaaaaag	aaggcttaga	tccttttatg	480
tccatttttag	tcactaaacg	atatcnaaag	tgccagaatg	caaaagggtt	gtgaacattt	540
attcaaaaagc	taatataaga	tatttcacat	actcatcttt	ctg		583

<210> 204

<211> 589

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(589)

<223> n = A,T,C or G

<400> 204

ttttttttnt	tttttttttt	tttttttntc	ttcttttttt	ttganaatga	ggatcgagtt	60
tttcaactct	tagatagggc	atgaagaaaa	ctcatctttc	cagctttaaa	ataacaatca	120
aatctcttat	gctatatcat	attttaagtt	aaactaatga	gtcactggct	tatcttctcc	180
tgaaggaaat	ctgttcattc	ttctcattca	tatagttata	tcaagtacta	ccttgcatat	240
tgagagggtt	ttcttctcta	tttacacata	tatttccatg	tgaatttgta	tcaaaccctt	300
attttcatgc	aaactagaaa	ataatgtntt	cttttgcata	agagaagaga	acaatatnag	360
cattacaaaa	ctgctcaaat	tgtttgttaa	gnttatccat	tataattagt	tnggcaggag	420
ctaatacaaa	tcacatttac	ngacnagcaa	taataaaact	gaagtaccag	ttaaatatcc	480
aaaataatta	aaggaacatt	tttagcctgg	gtataattag	ctaattcact	ttacaagcat	540
ttattnagaa	tgaattcaca	tgttattatt	ccntagccca	acacaatgg		589

<210> 205

<211> 545

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(545)

<223> n = A,T,C or G

<400> 205

tttttntttt	ttttttcagt	aataatcaga	acaatattta	tttttatatt	taaaattcat	60
agaaaagtgc	cttacattta	ataaaagttt	gtttctcaaa	gtgatcagag	gaattagata	120
tngtcttgaa	caccaatatt	aatttgagga	aaatacacca	aaatacatta	agtaaattat	180
ttaagatcat	agagcttgta	agtgaagaa	taaaatttga	cctcagaaac	tctgagcatt	240
aaaaatccac	tattagcaaa	taaattacta	tggacttctt	gctttaattt	tgtgatgaat	300
atgggggtgc	actggtaaac	caacacattc	tgaaggatag	attacttagt	gatagattct	360
tatgtacttt	gctanatnac	gtggatatga	gttgacaagt	ttctctttct	tcaatctttt	420
aaggggcnag	ngaaatgagg	aagaaaagaa	aaggattacg	catactgttc	tttctatngg	480
aaggattaga	tatgtttcct	ttgccaatat	taaaaaaata	ataatgttta	ctactagtga	540
aaccc						545

<210> 206

<211> 487

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(487)

<223> n = A,T,C or G

<400> 206

tttttttttt	tttttttagtc	aagtttctna	tttttattat	aattaaagtc	ttggtcattt	60
cattttattag	ctctgcaact	tacatatatta	aattaaagaa	acgttnttag	acaactgtna	120
caattttataa	atgtaagggtg	ccattattga	gtanatatat	tcctccaaga	gtggatgtgt	180
cccttctccc	accaactaat	gaancagcaa	cattagttta	attttattag	tagatnatac	240
actgctgcaa	acgctaattc	tcttctccat	ccccatgtng	atattgtgta	tatgtgtgag	300
ttggtnagaa	tgcatacanca	atctnacaat	caacagcaag	atgaagctag	gcntgggctt	360
tcggtgaaaa	tagactgtgt	ctgtctgaat	caaatgatct	gacctatcct	cgggtggcaag	420
aactcttcga	accgcttcct	caaaggcngc	tgccacattt	gtggcntctn	ttgcacttgt	480

ttcaaaa

487

<210> 207
 <211> 332
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(332)
 <223> n = A,T,C or G

<400> 207
 tgaattggct aaaagactgc atttttanaa ctagcaactc ttattttcttt cctttaaaaa 60
 tacatagcat taaatcccaa atcctattta aagacctgac agcttgagaa ggctcactact 120
 gcatttatag gaccttctgg tggttctgct gttacntttg aantctgaca atccttgana 180
 atctttgcat gcagaggagg taaaaggat tggattttca cagaggaana acacagcgca 240
 gaaatgaagg ggccaggctt actgagcttg tccactggag ggctcatggg tgggacatgg 300
 aaaagaaggc agcctaggcc ctggggaagg ca 332

<210> 208
 <211> 524
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(524)
 <223> n = A,T,C or G

<400> 208
 agggcggtggt gcgaggggcg ttactgtttt gtctcagtaa caataaatac aaaaagactg 60
 gttgtgttcc ggccccatcc aaccacgaag ttgatttctc ttgtgtgcag agtgactgat 120
 tttaaaggac atggagcttg tcacaatgtc acaatgtcac agtggtgaagg gcacactcac 180
 tcccgcgtga ttcacattta gcaaccaaca atagctcatg agtccatact tgtaaatact 240
 tttggcagaa tacttnttga aacttgcaga tgataactaa gatccaagat atttcccaaa 300
 gtaaatagaa gtgggtcata atattaatta cctgttcaca tcagcttcca tttaacaagtc 360
 atgagcccag aacttgacat caaactaagc ccacttagac tcctcaccac cagtctgtcc 420
 tgtcatcaga caggaggctg tcaccttgac caaattctca ccagtcaatc atctatccaa 480
 aaaccattac ctgatccact tccggtaatg caccaccttg gtga 524

<210> 209
 <211> 159
 <212> DNA
 <213> Homo sapien

<400> 209
 ggggtgaggaa atccagagtt gccatggaga aaattccagt gtcagcattc ttgctccttg 60
 tggccctctc ctacactctg gccagagata ccacagtcaa acctggagcc aaaaaggaca 120
 caaaggactc tcgacccaaa ctgccccaga ccctctcca 159

<210> 210
 <211> 256
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(256)
 <223> n = A,T,C or G

<400> 210
 actccctggc agacaaaggc agaggagaga gctctgtag ttctgtgttg ttgaactgcc 60
 actgaatttc tttccacttg gactattaca tgccanttga gggactaatg gaaaaacgta 120
 tggggagatt ttanccaatt tangtntgta aatggggaga ctggggcagg cgggagagat 180
 ttgcagggtg naaatgggan ggctgggttg ttanatgaac agggacatag gaggtaggca 240
 ccaggatgct aaatca 256

<210> 211
 <211> 264
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(264)
 <223> n = A,T,C or G

<400> 211
 acattgtttt tttagataa agcattgaga gagctctcct taacgtgaca caatggaagg 60
 actggaacac ataccacat ctttgttctg agggataatt ttctgataaa gtcttgctgt 120
 atattcaagc acatatgtta tatattattc agttccatgt ttatagccta gttaaggaga 180
 ggggagatac attcngaaag aggactgaaa gaaataactca agtnggaaaa cagaaaaaga 240
 aaaaaaggag caaatgagaa gcct 264

<210> 212
 <211> 328
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(328)
 <223> n = A,T,C or G

<400> 212
 acccaaaaat ccaatgctga atatttggtc tcattattcc canattcttt gattgtcaaa 60
 ggatttaaatg ttgtctcagc ttgggcactt cagttaggac ctaaggatgc cagccggcag 120
 gtttatatat gcagcaacaa tattcaagcg cgacaacagg ttattgaact tgcccgccag 180
 ttnaattttca ttcccattga cttgggatcc ttatcatcag ccagagagat tgaaaattta 240
 ccctacnac tctttactct ctgganaggg ccagtggtgg tagctataag cttggccaca 300
 ttttttttct cttttattcct ttgtcaga 328

<210> 213
 <211> 250
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature

<222> (1)...(250)

<223> n = A,T,C or G

<400> 213

acttatgagc	agagcgacat	atccnagtgt	agactgaata	aaactgaatt	ctctccagtt	60
taaagcattg	ctcactgaag	ggatagaagt	gactgccagg	agggaaagta	agccaaggct	120
cattatgcc	aagganatat	acatttcaat	tctccaaact	tcttcctcat	tccaagagtt	180
ttcaatattt	gcatgaacct	gctgataanc	catgttaana	aacaaatata	tctctnacct	240
tctcatcggt						250

<210> 214

<211> 444

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(444)

<223> n = A,T,C or G

<400> 214

accagaatc	caatgctgaa	tatttggctt	cattattccc	agattccttg	attgtcaaag	60
gatttaaatg	tgtctcagct	tgggcacttc	agttaggacc	taaggatgcc	agccggcagg	120
tttatatatg	cagcaacaat	attcaagcgc	gacaacagg	tattgaactt	gcccggcagg	180
tgaatttcat	tcccattgac	tgggatacct	tatcatcagc	canagagatt	gaaaattttac	240
ccctacgact	ctttactctc	tggagagggc	cagtgggtgt	agctataagc	ttggccacat	300
ttttttttcc	tttattcctt	tgtcagagat	gcgattcatc	catatgctan	aaaccaacag	360
agtgactttt	acaaaattcc	tataganatt	gtgaataaaa	ccttacctat	agttgccatt	420
actttgctct	ccctaataata	cctc				444

<210> 215

<211> 366

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(366)

<223> n = A,T,C or G

<400> 215

acttatgagc	agagcgacat	atccaagtgt	anactgaata	aaactgaatt	ctctccagtt	60
taaagcattg	ctcactgaag	ggatagaagt	gactgccagg	agggaaagta	agccaaggct	120
cattatgcc	aagganatat	acatttcaat	tctccaaact	tcttcctcat	tccaagagtt	180
ttcaatattt	gcatgaacct	gctgataagc	catggttgaga	aacaaatata	tctctgacct	240
tctcatcggt	aagcagaggc	tgtaggcaac	atggaccata	gcgaanaaaa	aacttagtaa	300
tccaagctgt	tttctacact	gtaaccagg	ttccaaccaa	ggtggaaatc	tcctatactt	360
ggtgcc						366

<210> 216

<211> 260

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(260)
 <223> n = A,T,C or G

<400> 216
 ctgtataaac agaactccac tgcangaggg agggccgggc caggagaatc tccgcttgtc 60
 caagacaggg gcctaaggag ggtctccaca ctgctnntaa gggctnttnc atttttttat 120
 taataaaaag tnnaaaaggc ctcttctcaa cttttttccc ttnggctgga aaatttaaaa 180
 atcaaaaatt tcctnaagtt ntcaagctat catatatact ntatcctgaa aaagcaacat 240
 aattcttctt tccttctttt 260

<210> 217
 <211> 262
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(262)
 <223> n = A,T,C or G

<400> 217
 acctacgtgg gtaagtttan aaatgttata atttcaggaa naggaacgca tataattgta 60
 tcttgccctat aatttttctat tttaataagg aaatagcaaa ttgggggtggg gggaatgtag 120
 ggcattctac agtttgagca aaatgcaatt aaatgtggaa ggacagcact gaaaaatttt 180
 atgaataatc tgtatgatta tatgtctcta gagtagattt ataattagcc acttacccta 240
 atatccttca tgcttgtaaa gt 262

<210> 218
 <211> 205
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(205)
 <223> n = A,T,C or G

<400> 218
 accaaggtgg tgcattaccg gaantggatc aangacacca tctgtggccaa cccctgagca 60
 cccctatcaa ctcccttttg tagtaaaactt ggaaccttgg aaatgaccag gccaaagactc 120
 aggccctccc agttctactg acctttgtcc ttangtntna ngtccagggt tgctaggaaa 180
 anaaatcagc agacacaggt gtaaa 205

<210> 219
 <211> 114
 <212> DNA
 <213> Homo sapien

<400> 219
 tactgttttg tctcagtaac aataaatata aaaagactgg ttgtgttccg gccccatcca 60
 accacgaagt tgatttctct tgtgtgcaga gtgactgatt ttaaaggaca tgga 114

<210> 220
 <211> 93

<212> DNA

<213> Homo sapien

<400> 220

actagccagc	acaaaaggca	gggtagcctg	aattgctttc	tgctctttac	atttctttta	60
aaataagcat	ttagtgctca	gtccctactg	agt			93

<210> 221

<211> 167

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(167)

<223> n = A,T,C or G

<400> 221

actangtgca	ggtgcgca	aatatttgct	gatattccct	tcattcttga	ttccatgagg	60
tcttttgccc	agcctgtggc	tctactgtag	taagtttctg	ctgatgagga	gccagnatgc	120
ccccactac	cttccctgac	gtcctccana	aatcacccaa	cctctgt		167

<210> 222

<211> 351

<212> DNA

<213> Homo sapien

<400> 222

agggcggtgt	gcggagggcg	gtactgacct	cattagtagg	aggatgcatt	ctggcacccc	60
gttcttcacc	tgtcccccaa	tccttaaaag	gccatactgc	ataaagtcaa	caacagataa	120
atgtttgctg	aattaaagga	tgatgaaaa	aaattaataa	tgaatttttg	cataatccaa	180
ttttctcttt	tatatttcta	gaagaagttt	ctttgagcct	attagatccc	gggaatcttt	240
taggtgagca	tgattagaga	gcttgtaggt	tgctttttaca	tatatctggc	atatttgagt	300
ctcgtatcaa	aacaatagat	tggtaaaggt	ggtattattg	tattgataag	t	351

<210> 223

<211> 383

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(383)

<223> n = A,T,C or G

<400> 223

aaaacaaaca	aacaaaaaaa	acaattcttc	attcagaaaa	attatcttag	ggactgatat	60
tggttaattat	ggtcaattta	atwrtttkt	ggggcatttc	cttacattgt	cttgacaaga	120
ttaaaatgtc	tgtgcaaaaa	ttttgtattt	tatttgagga	cttcttatca	aaagtaatgc	180
tgccaaagga	agtctaagga	attagtagtg	ttcccmcac	ttgtttggag	tgtgctattc	240
taaaagattt	tgatttcctg	gaatgacaat	tatattttta	ctttgggtggg	ggaaanagtt	300
ataggaccac	agtccttact	tctgatactt	gtaaattaat	cttttattgc	acttgttttg	360
accattaagc	tatatgttta	aaa				383

<210> 224

<211> 320

<212> DNA

<213> Homo sapien

<400> 224

cccctgaagg	cttcttggtta	gaaaatagta	cagttacaac	caataggaac	aacaaaaaga	60
aaaagtttgt	gacattgtag	tagggagtgt	gtacccttta	ctcccatca	aaaaaaaaat	120
ggatacatgg	ttaaaggata	raagggaat	attttatcat	atgttctaaa	agagaaggaa	180
gagaaaatac	tactttctcr	aaatggaagc	ccttaaagggt	gctttgatac	tgaaggacac	240
aaatgtggcc	gtccatcctc	ctttaragtt	gcattgacttg	gacacggtaa	ctgttgagcgt	300
tttaractcm	gcattgtgac					320

<210> 225

<211> 1214

<212> DNA

<213> Homo sapien

<400> 225

gaggactgca	gcccgcactc	gcagccctgg	caggcggcac	tggatcatgga	aaacgaattg	60
ttctgctcgg	gcgtccctgg	gcaccgcag	tgggtgctgt	cagccgcaca	ctgtttccag	120
aactcctaca	ccatcgggct	gggcctgcac	agtcttgagg	ccgaccaaga	gccagggagc	180
cagatgggtg	agggcagcct	ctccgtacgg	caccagagt	acaacagacc	cttgctcgct	240
aacgacctca	tgctcatcaa	gttggacgaa	tccgtgtccg	agtctgacac	catccggagc	300
atcagcattg	cttcgcagtg	ccctaccgcg	gggaactctt	gcctcgtttc	tggctgggggt	360
ctgctggcga	acggcagaat	gcctaccgtg	ctgcagtgcg	tgaacgtgtc	gggtggtgtct	420
gaggaggtct	gcagtaagct	ctatgaccgg	ctgtaccacc	ccagcatgtt	ctgcgccggc	480
ggagggcaag	accagaagga	ctcctgcaac	gggtgactctg	gggggccccct	gatctgcaac	540
gggtacttgc	agggccttgt	gtctttcgga	aaagccccgt	gtggccaagt	tggcgtgcca	600
ggtgtctaca	ccaacctctg	caaattcact	gagtggtatag	agaaaaccgt	ccaggccagt	660
taactctggg	gactgggaac	ccatgaaatt	gacccccaaa	tacatcctgc	ggaaggaatt	720
caggaatatc	tgttcccagc	ccctcctccc	tcaggccccag	gagtcagggc	ccccagcccc	780
tcctccctca	aaccaagggt	acagatcccc	agccccctct	ccctcagacc	caggagtcca	840
gacccccag	ccccctcctc	ctcagaccca	ggagtccagc	ccctcctccc	tcagaccag	900
gagtcagac	ccccagccc	ctcctccctc	agaccaggg	gtccaggccc	ccaacccctc	960
ctccctcaga	ctcagaggtc	caagccccca	acccctcctt	ccccagacc	agaggtccag	1020
gtcccagccc	ctcctccctc	agaccagcg	gtccaatgcc	acctagactc	tccctgtaca	1080
cagtgcctcc	ttgtggcacg	ttgacccaac	cttaccagtt	ggtttttcat	tttttgtccc	1140
tttcccttag	atccagaaat	aaagtctaag	agaagcgcaa	aaaaaaaaaa	aaaaaaaaaa	1200
aaaaaaaaaa	aaaa					1214

<210> 226

<211> 119

<212> DNA

<213> Homo sapien

<400> 226

accagtatg	tgcagggaga	cggaacccca	tgtgacagcc	cactccacca	gggttcccaa	60
agaacctggc	ccagtcataa	tcattcatcc	tgacagtggc	aataatcacg	ataaccagt	119

<210> 227

<211> 818

<212> DNA

<213> Homo sapien

<400> 227

acaattcata	gggacgacca	atgaggacag	ggaatgaacc	cggctctccc	ccagccctga	60
tttttgctac	atatggggtc	ccttttctatt	ctttgcaaaa	acactggggtt	ttctgagaac	120
acggacgggtt	cttagcacia	tttgtgaaat	ctgtgtaraa	ccgggctttg	caggggagat	180
aattttcctc	ctctggagga	aaggtggtga	ttgacaggca	gggagacagt	gacaaggcta	240
gagaaaagcca	cgctcggcct	tctctgaacc	aggatggaac	ggcagacccc	tgaaaacgaa	300
gcttgctccc	ttccaatcag	ccacttctga	gaacccccat	ctaacttctt	actggaaaag	360
agggcctcct	caggagcagt	ccaagagttt	tcaaagataa	cgtgacaact	accatctaga	420
ggaaaagggtg	caccctcagc	agagaagccg	agagcttaac	tctggctcgtt	tccagagaca	480
acctgctggc	tgtcttggga	tgcgcccagc	ctttgagagg	ccactacccc	atgaacttct	540
gccatccact	ggacatgaag	ctgaggacac	tgggcttcaa	cactgagttg	tcactgaggg	600
gacaggctct	gccctcaagc	cggctgaggg	cagcaaccac	tctcctcccc	tttctcacgc	660
aaagccattc	ccacaaatcc	agaccatacc	atgaagcaac	gagacccaaa	cagtttggtt	720
caagaggata	tgaggactgt	ctcagcctgg	ctttgggctg	acaccatgca	cacacacaag	780
gtccacttct	aggttttctg	cctagatggg	agtcgtgt			818

<210> 228

<211> 744

<212> DNA

<213> Homo sapien

<400> 228

actggagaca	ctgttgaact	tgatcaagac	ccagaccacc	ccaggtctcc	ttcgtgggat	60
gtcatgacgt	ttgacatacc	tttggaaacga	gcctcctcct	tggaagatgg	aagaccgtgt	120
tcgtggccga	cctggcctct	cctggcctgt	ttcttaagat	gcggagtcac	atttcaatgg	180
taggaaaagt	ggcttcgtaa	aatagaagag	cagtcactgt	ggaactacca	aatggcgaga	240
tgctcgggtg	acattggggg	gctttgggat	aaaagattta	tgagccaact	attctctggc	300
accagattct	aggccagttt	gttccactga	agcttttccc	acagcagtcc	acctctgcag	360
gctggcagct	gaatggcttg	ccggtggctc	tgtggcaaga	tcacactgag	atcgatgggt	420
gagaaggcta	ggatgcttgt	ctagtgttct	tagctgtcac	gttggctcct	tccaggttgg	480
ccagacgggtg	ttggccactc	ccttctaaaa	cacaggcgcc	ctcctggtga	cagtgacccg	540
ccgtgggtatg	ccttggccca	ttccagcagt	cccagttatg	catttcaagt	ttgggggttg	600
ttcttttctg	taatgttctt	ctgtgttgtc	agctgtcttc	atttctctgg	ctaagcagca	660
ttggggagatg	tggaccagag	atccactcct	taagaaccag	tggcgaaaga	cactttcttt	720
cttcactctg	aagtagctgg	tggt				744

<210> 229

<211> 300

<212> DNA

<213> Homo sapien

<400> 229

cgagtctggg	ttttgtctat	aaagtttgat	ccctcctttt	ctcatccaaa	tcattgtgaac	60
cattacacat	cgaaataaaa	gaaagggtgg	agacttgccc	aacgccaggc	tgacatgtgc	120
tgcagggttg	ttgtttttta	attattattg	ttagaaacgt	cacccacagt	ccctgttaat	180
ttgtatgtga	cagccaactc	tgagaaggtc	ctatttttcc	acctgcagag	gatccagtct	240
cactaggctc	ctccttgccc	tcacactgga	gtctccgcca	gtgtgggtgc	ccactgacat	300

<210> 230

<211> 301

<212> DNA

<213> Homo sapien

<400> 230

cagcagaaca	aatacaata	tgaagagtgc	aaagatctca	taaaatctat	gctgaggaat	60
gagcgacagt	tcaaggagga	gaagcttgca	gagcagctca	agcaagctga	ggagctcagg	120

caatataaag tcctgggttca cactcaggaa cgagagctga cccagttaag ggagaagttg 180
 cgggaaggga gagatgcctc cctctcattg aatgagcatc tccaggccct cctcactccg 240
 gatgaaccgg acaagtccca ggggcaggac ctccaagaaa cagacctcg cgcgaccac 300
 g 301

<210> 231
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 231
 gcaagcacgc tggcaaatct ctgtcaggtc agctccagag aagccattag tcatttttagc 60
 caggaactcc aagtccacat ccttggcaac tggggacttg cgcagggttag ccttgaggat 120
 ggcaacacgg gacttctcat caggaagtgg gatgtagatg agctgatcaa gacggccagg 180
 tctgaggatg gcaggatcaa tgatgtcagg ccggttggtta ccgccaatga tgaacacatt 240
 tttttttgtg gacatgccat ccatttctgt caggatctgg ttgatgactc ggtcagcagc 300
 c 301

<210> 232
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 232
 agtaggtatt tcgtgagaag ttcaacacca aaactggaac atagttctcc ttcaagtgtt 60
 ggcgacagcg gggcttcctg attctggaat ataactttgt gttaaattaac agccacctat 120
 agaagagtcc atctgctgtg aaggagagac agagaactct gggttccgtc gtccctgtcca 180
 cgtgctgtac caagtgtctg tgccagcctg ttacctgttc tcaactgaaaa tctggctaata 240
 gctcttgtgt atcacttctg attctgacaa tcaatcaatc aatggcctag agcactgact 300
 g 301

<210> 233
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 233
 atgactgact tccagtaag gctctctaag gggtaagtag gaggatccac aggatttgag 60
 atgctaaggc cccagagatc gtttgatcca accctcttat ttccagaggg gaaaatgggg 120
 cctagaagtt acagagcatc tagctgggtg gctggcacc cttggcctcac acagactccc 180
 gagtagctgg gactacaggc acacagtcac tgaagcaggc cctgttagca attctatgcg 240
 taaaaattaa catgagatga gtagagactt tattgagaaa gcaagagaaa atcctatcaa 300
 c 301

<210> 234
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 234
 aggtcctaca catcgagact catccatgat tgatgatgaat ttaaaaaatta caagcaaaga 60
 cattttattc atcatgatgc tttcttttgt ttcttctttt cgttttcttc tttttctttt 120
 tcaatttcag caacatactt ctcaaattct tcaggattta aaatcttgag ggattgatct 180
 cgcctcatga cagcaagttc aatgtttttg ccacctgact gaaccacttc caggagtgcc 240
 ttgatcacca gcttaatggg cagatcatct gcttcaatgg cttcgtcagt atagttcttc 300

t

301

<210> 235
 <211> 283
 <212> DNA
 <213> Homo sapien

<400> 235

tggggctgtg	catcagggcgg	gtttgagaaa	tattcaattc	tcagcagaag	ccagaatttg	60
aattccctca	tcttttaggg	aatcatttac	caggtttgga	gaggattcag	acagctcagg	120
tgctttcact	aatgtctctg	aacttctgtc	cctctttgtt	catggatagt	ccaataaata	180
atgttatctt	tgaactgatg	ctcataggag	agaatataag	aactctgagt	gatatcaaca	240
ttagggattc	aaagaaatat	tagattttaag	ctcacactgg	tca		283

<210> 236
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 236

aggtcctcca	ccaactgcct	gaagcacggg	taaaattggg	aagaagtata	gtgcagcata	60
aatactttta	aatcgatcag	atttccttaa	cccacatgca	atcttcttca	ccagaagagg	120
tcggagcagc	atcattaata	ccaagcagaa	tgcgtaatat	ataaatacaa	tggtatatag	180
tgggtagacg	gcttcatgag	tacagtgtac	tgtgggtatcg	taatctggac	ttgggttgta	240
aagcatcgtg	taccagtcag	aaagcatcaa	tactcgacat	gaacgaatat	aaagaacacc	300
a						301

<210> 237
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 237

cagtggtagt	ggtgggtggac	gtggcggttg	tcgtgggtgcc	ttttttggtg	cccgtcacaa	60
actcaatttt	tgttcgctcc	tttttggect	tttccaattt	gtccatctca	attttctggg	120
ccttggtctaa	tgctcatag	taggagtcct	cagaccagcc	atggggatca	aacatatacct	180
ttgggtagtt	ggtgccaagc	tcgtcaatgg	cacagaatgg	atcagcttct	cgtaaatacta	240
gggttccgaa	attctttctt	cctttggata	atgtagttca	tatccattcc	ctcctttatc	300
t						301

<210> 238
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 238

gggcagggttt	tttttttttt	ttttttgatg	gtgcagaccc	ttgctttatt	tgtctgactt	60
gttcacagtt	cagccccctg	ctcagaaaac	caacgggcca	gctaaggaga	ggaggaggca	120
ccttgagact	tccggagtcg	aggctctcca	gggttcccca	gcccatcaat	cattttctgc	180
acccccctgcc	tgggaagcag	ctccctgggg	gggtgggaatg	ggtgactaga	agggatttca	240
gtgtggggacc	cagggtctgt	tcttcacagt	aggaggtgga	agggatgact	aatttcttta	300
t						301

<210> 239
 <211> 239

<212> DNA

<213> Homo sapien

<400> 239

ataagcagct aggggaattct ttatttagta atgtcctaac ataaaaagttc acataaactgc	60
ttctgtcaaa ccatgatact gagctttgtg acaacccaga aataactaag agaaggcaaa	120
cataatacct tagagatcaa gaaacattta cacagttcaa ctgtttaaaa atagctcaac	180
attcagccag tgagtagagt gtgaatgcca gcatacacag tatacagggtc cttcaggga	239

<210> 240

<211> 300

<212> DNA

<213> Homo sapien

<400> 240

ggtcctaattg aagcagcagc ttccacattt taacgcaggt ttacgggtgat actgtccttt	60
gggatctgcc ctccagtggg acccttttaag gaagaagtgg gcccaagcta agttccacat	120
gctgggtgag ccagatgact tctgttccct ggtcactttc ttcaatgggg cgaatggggg	180
ctgccaggtt tttaaaatca tgcttcatct tgaagcacac ggtcacttca cctcctcac	240
gctgtgggtg tactttgatg aaaataccca ctttgttggc ctttctgaag ctataatgtc	300

<210> 241

<211> 301

<212> DNA

<213> Homo sapien

<400> 241

gaggtctggt gctgaggtct ctgggctagg aagaggagtt ctgtggagct ggaagccaga	60
cctcttttga ggaaactcca gcagctatgt tgggtgtctct gaggggaatgc aacaaggctg	120
ctcctccatg tattggaaaa ctgcaaaactg gactcaactg gaaggaagtg ctgctgccag	180
tgtgaagaac cagcctgagg tgacagaaac ggaagcaaac aggaacagcc agtcttttct	240
tcctcctcct gtcatacggg ctctctcaag catcctttgt tgtcaggggc ctaaaaggga	300
g	301

<210> 242

<211> 301

<212> DNA

<213> Homo sapien

<400> 242

ccgaggtcct gggatgcaac caatcactct gtttcacgtg acttttatca ccatacaatt	60
tgtggcattt cctcattttc tacattgtag aatcaagagt gtaaataaat gtatatcgat	120
gtcttcaaga atatatcatt cttttttcac tagaaccat tcaaaatata agtcaagaat	180
cttaatatca acaaatatat caagcaaact ggaaggcaga ataactacca taatttagta	240
taagtaccca aagttttata aatcaaaagc cctaattgata accattttta gaattcaatc	300
a	301

<210> 243

<211> 301

<212> DNA

<213> Homo sapien

<400> 243

aggtaagtcc cagtttgaag ctcaaaagat ctggtatgag cataggctca tgcacgacat	60
ggtggcccaa gctatgaaat cagagggagg cttcatctgg gcctgtaaaa actatgatgg	120

tgacgtgcag tcggactctg tggcccaagg gtatggctct ctcggcatga tgaccagcgt 180
 gctggtttgt ccagatggca agacagtaga agcagaggct gccacggga ctgtaacccg 240
 tcactaccgc atgttcaga aaggacagga gacgtccacc aatcccattg cttccatttt 300
 t 301

<210> 244
 <211> 300
 <212> DNA
 <213> Homo sapien

<400> 244
 gctgggtttgc aagaatgaaa tgaatgattc tacagctagg acttaacctt gaaatggaaa 60
 gtcattgcaat cccattttgca ggatctgtct gtgcacatgc ctctgtagag agcagcattc 120
 ccagggacct tggaaacagt tgacactgta aggtgcttgc tccccaagac acatcctaaa 180
 aggtgttgta atggtgaaaa cgtcttcctt ctttattgcc ccttcttatt tatgtgaaca 240
 actgtttgtc ttttgtgtat cttttttaaa ctgtaaagtt caattgtgaa aatgaatatc 300

<210> 245
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 245
 gtctgagtat ttaaaatggt attgaaatta tccccaacca atgttagaaa agaaagaggt 60
 tatatactta gataaaaaat gaggtgaatt actatccatt gaaatcatgc tcttagaatt 120
 aaggccagga gatattgtca ttaatgtara cttcaggaca ctagagtata gcagccctat 180
 gttttcaaag agcagagatg caattaaata ttgttttagca tcaaaaaggc cactcaatac 240
 agctaataaa atgaaagacc taattttctaa agcaattctt tataattttac aaagttttta 300
 g 301

<210> 246
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 246
 ggtctgtcct acaatgcctg cttcttgaaa gaagtcggca ctttctagaa tagctaaata 60
 acctgggctt attttaaaga actatttgta gctcagattg gttttcctat ggctaaaata 120
 agtgcttctt gtgaaaatta aataaaacag ttaattcaaa gccttgatat atgttaccac 180
 taacaatcat actaaatata ttttgaagta caaagtttga catgctctaa agtgacaacc 240
 caaatgtgtc ttacaaaaca cgttcctaac aaggatatgt ttacactacc aatgcagaaa 300
 c 301

<210> 247
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 247
 aggtcctttg gcagggtca tggatcagag ctcaaactgg agggaaaggc atttcgggta 60
 gcctaagagg gcgactggcg gcagcacaac caaggaaggc aagggtgttt ccccccacgt 120
 gtgtcctgtg ttcagggtcg acacacaatc ctcatgggaa caggatcacc catgcgctgc 180
 ccttgatgat caaggttggg gcttaagtgg attaagggag gcaagttctg ggttccttgc 240
 cttttcaaac catgaagtca ggctctgtat ccctcctttt cctaactgat attctaacta 300
 a 301

<210> 248
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 248
 aggtccttgg agatgccatt tcagccgaag gactcttctw ttcggaagta caccctcact 60
 attaggaaga ttcttagggg taatttttct gaggaaggag aactagccaa cttaagaatt 120
 acaggaagaa agtggttttg aagacagcca aagaaataaa agcagattaa attgtatcag 180
 gtacattcca gcctgttggc aactccataa aaacatttca gattttaatc ccgaatttag 240
 ctaatgagac tggatttttg ttttttatgt tgtgtgtcgc agagctaaaa actcagttcc 300
 c 301

<210> 249
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 249
 gtccagagga agcacctggt gctgaactag gcttgccctg ctgtgaactt gcacttggag 60
 ccctgacgct gctgttctcc ccgaaaaacc cgaccgacct ccgcgatctc cgteccgccc 120
 ccagggagac acagcagtga ctcagagctg gtgcacact gtgcctccct cctcaccgcc 180
 catcgtaatg aattattttg aaaattaatt ccaccatcct ttcagattct ggatggaaag 240
 actgaatcct tgactcagaa ttgtttgctg aaaagaatga tgtgacttcc ttagtcattt 300
 a 301

<210> 250
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 250
 ggtctgtgac aaggacttgc aggctgtggg aggcaagtga cccttaacac tacacttctc 60
 cttatcttta ttggcttgat aaacataatt atttctaaca ctagcttatt tccagttgcc 120
 cataagcaca tcagtacttt tctctggctg gaatagtaaa ctaaagtatg gtacatctac 180
 ctaaaagact actatgtgga ataatacata ctaatgaagt attacatgat ttaaagacta 240
 caataaaaacc aaacatgctt ataacattaa gaaaaacaat aaagatacat gattgaaacc 300
 a 301

<210> 251
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 251
 gccgaggtcc tacatttggc ccagtttccc cctgcatect ctccagggcc cctgcctcat 60
 agacaacctc atagagcata ggagaactgg ttgccctggg ggcaggggga ctgtctggat 120
 ggcagggggtc ctcaaaaatg ccactgtcac tgccaggaaa tgcttctgag cagtacacct 180
 cattgggatc aatgaaaagc ttcaagaaat cttcaggctc actctcttga aggcccggaa 240
 cctctggagg ggggacgtgg aatcccagct ccaggacgga tcctgtcgaa aagatatcct 300
 c 301

<210> 252
 <211> 301

<212> DNA

<213> Homo sapien

<400> 252

```

gcaaccaatc actctgtttc acgtgacttt tatcaccata caatttgtgg catttcctca      60
ttttctacat tgtagaatca agagtgtaaa taaatgtata tcgatgtctt caagaatata      120
tcatttccttt ttcactagga acccattcaa aatataagtc aagaatctta atatcaacaa      180
atatatcaag caaactggaa ggcagaataa ctaccataat ttagtataag tacccaaagt      240
tttataaatc aaaagcccta atgataacca tttttagaat tcaatcatca ctgtagaatc      300
a                                                                                   301

```

<210> 253

<211> 301

<212> DNA

<213> Homo sapien

<400> 253

```

ttccctaaga agatgttatt ttgttgggtt ttgttccccc tccatctcga ttctcgtacc      60
caactaaaaa aaaaaataa agaaaaaatg tgctgcgttc tgaaaaataa ctcccttagct      120
tggtctgatt gttttcagac cttaaaatat aaacttggtt cacaagcttt aatccatgtg      180
gatttttttt cttagagaac cacaaaaacat aaaaggagca agtcggactg aatacctgtt      240
tccatagtgc ccacagggtg ttcctcacat tttctccata ggaaaatgct ttttcccaag      300
g                                                                                   301

```

<210> 254

<211> 301

<212> DNA

<213> Homo sapien

<400> 254

```

cgctgcgcct ttcccttggg ggagggggcaa ggccagaggg ggtccaagtg cagcacgagg      60
aacttgacca attcccttga agcgggtggg ttaaaccctg taaatgggaa caaaatcccc      120
ccaaatctct tcatcttacc ctggtggact cctgactgta gaattttttg gttgaaacaa      180
gaaaaaaata aagcttttga cttttcaagg ttgcttaaca ggtactgaaa gactggcctc      240
acttaaaactg agccaggaaa agctgcagat ttattaatgg gtgtgttagt gtgcagtgcc      300
t                                                                                   301

```

<210> 255

<211> 302

<212> DNA

<213> Homo sapien

<400> 255

```

agcttttttt tttttttttt tttttttttt ttcattaaaa aatagtgtct tttattataa      60
attactgaaa tgtttctttt ctgaatataa atataaatat gtgcaaagtt tgacttggat      120
tggtgatttt ttgagttctt caagcatctc ctaataccct caagggcctg agtagggggg      180
aggaaaaagg actggagggtg gaatctttat aaaaaacaag agtgattgag gcagattgta      240
aacattatta aaaaacaaga aacaaacaaa aaaaatagaga aaaaaaccac cccaacacac      300
aa                                                                                   302

```

<210> 256

<211> 301

<212> DNA

<213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 256
 gttccagaaa acattgaagg tggcttccca aagtctaact agggataccc cctctagcct 60
 aggaccctcc tccccacacc tcaatccacc aaaccatcca taatgcaccc agataggccc 120
 acccccacaaa gcctggacac cttgagcaca cagttatgac caggacagac tcatctctat 180
 aggcaaatag ctgctggcaa actggcatta cctggtttgt ggggatgggg gggcaagtgt 240
 gtggcctctc ggcctgggta gcaagaacat tcagggtagg cctaagttan tcgtgttagt 300
 t 301

<210> 257
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 257
 gttgtggagg aactctggct tgctcattaa gtccactga ttttcactat cccctgaatt 60
 tccccactta tttttgtctt tcactatcgc aggccttaga agaggtctac ctgcctccag 120
 tcttacctag tccagtctac cccctggagt tagaatggcc atcctgaagt gaaaagtaat 180
 gtcacattac tcccttcagt gatttcttgt agaagtgcc aatccctgaat gccaccàaga 240
 tcttaattctt cacatcttta atcttatctc tttgactcct ctttacaccg gagaaggctc 300
 c 301

<210> 258
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 258
 cagcagtagt agatgccgta tgccagcacg cccagcactc ccaggatcag caccagcacc 60
 agggggcccag ccaccaggcg cagaagcaag ataaacagta ggctcaagac cagagccacc 120
 cccagggcaa caagaatcca ataccaggac tgggcaaaat cttcaaagat cttaacactg 180
 atgtctcggg cattgaggct gtcaataana cgctgatccc ctgctgtatg gtggtgtcat 240
 tggatgatccc tgggagcgcc ggtggagtaa cgttgggtcca tggaaagcag cgcccacaac 300
 t 301

<210> 259
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 259

```

tcatatatgc aaacaaatgc agactangcc tcaggcagag actaaaggac atctcttggg    60
gtgtcctgaa gtgatttgga cccctgaggg cagacaccta agtaggaatc ccagtgggaa    120
gcaaagccat aaggaagccc aggattcctt gtgatcagga agtgggccag gaaggctctgt    180
tccdgctcac atctcatctg catgcagcac ggaccggatg cgcctactgg gtcttggctt    240
ccctcccatc ttctcaagca gtgtccttgt tgagccattt gcctccttgg ctccaggtgg    300
c                                                                    301

```

```

<210> 260
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 260
ttttttttct ccctaaggaa aaagaaggaa caagtctcat aaaaccaa at aagcaatggg    60
aagggtgtctt aacttgaaaa agattaggag tctctgggtt acaagttata attgaatgaa    120
agaactgtaa cagccacagt tggccatttc atgccaatgg cagcaaacia caggattaac    180
tagggcaaaa taaataagtg tgtggaagcc ctgataagtg cttaataaac agactgattc    240
actgagacat cagtacctgc ccgggcggcc gctcgagccg aattctgcag atatccatca    300
c                                                                    301

```

```

<210> 261
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 261
aaatattcga gcaaatcctg taactaatgt gtctccataa aaggctttga actcagtga    60
tctgcttcca tccacgattc tagcaatgac ctctcggaca tcaaagctcc tcttaagggt    120
agcaccaact attccataca attcatcagc aggaaataaa ggctcttcag aagggttcaat    180
ggtgacatcc aattttcttct gataatttag attcctcaca accttcctag ttaagtgaag    240
ggcatgatga tcatccaaag cccagtggtc atttactcca gactttctgc aatgaagatc    300
a                                                                    301

```

```

<210> 262
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 262
gaggagagcc tggtacagca tttgtaagca cagaatactc caggagtatt tgtaattgtc    60
tgtgagcttc ttgccgcaag tctctcagaa atttaaaaag atgcaaatac ctgagtcacc    120
cctagacttc ctaaaccaga tcctctgggg ctggaacctg gcactctgca tttgtaatga    180
gggctttctg gtgcacacct aattttgtgc atctttgccc taaatcctgg attagtgcc    240
catcattacc cccacattat aatgggatag attcagagca gatactctcc agcaaagaat    300
c                                                                    301

```

```

<210> 263
<211> 301
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(301)
<223> n = A,T,C or G

```

<400> 263

tttagcttgt ggtaaatgac tcacaaaact gatttttaaaa tcaagttaat gtgaattttg	60
aaaattacta cttaatccta attcacaata acaatggcat taaggtttga cttgagttgg	120
ttcttagtat tatttatggt aaataggctc ttaccacttg caataactg gccacatcat	180
taatgactga cttcccagta aggctctcta aggggtaagt angaggatcc acaggatttg	240
agatgctaag gccccagaga tcgtttgatc caaccctctt attttcagag gggaaaatgg	300
g	301

<210> 264

<211> 301

<212> DNA

<213> Homo sapien

<400> 264

aaagacgtta aaccactcta ctaccacttg tggaactctc aaagggtaaa tgacaaascc	60
aatgaatgac tctaaaaaca atatttacat ttaatggttt gtagacaata aaaaaacaag	120
gtggatagat ctagaattgt aacattttta gaaaaccata scatttgaca gatgagaaaag	180
ctcaattata gatgcaaagt tataactaaa ctactatagt agtaaagaaa tacatttcac	240
acccttcata taaattcact atcttggtt gaggcactcc ataaaatgta tcacgtgcat	300
a	301

<210> 265

<211> 301

<212> DNA

<213> Homo sapien

<400> 265

tgcccaagtt atgtgtaagt gtatccgcac ccagaggtaa aactacactg tcattcttct	60
cttcttctga cgcagtattt cttctctggg gagaagccgg gaagtcttct cctggctcta	120
catattcttg gaagtctcta atcaactttt gttccatttg ttctatttct tcaggaggga	180
ttttcagttt gtcaacatgt tctctaacaa cacttgccca tttctgtaaa gaatccaaag	240
cagtcgaagg ctttgacatg tcaacaacca gcataactag agtatccttc agagatacgg	300
c	301

<210> 266

<211> 301

<212> DNA

<213> Homo sapien

<400> 266

taccgtctgc ccttctctcc atccaggcca tctgcgaatc tacatgggtc ctctattctg	60
acaccagatc actctttcct ctaccacag gcttgctatg agcaagagac acaacctcct	120
ctcttctgtg ttccagcttc ttttctgtt cttccaccc ctttaagttct attcctgggg	180
atagagacac caatacccat aacctctctc ctaagcctcc ttataacca ggggtgcacag	240
cacagactcc tgacaactgg taaggccaat gaactgggag ctcacagctg gctgtgcctg	300
a	301

<210> 267

<211> 301

<212> DNA

<213> Homo sapien

<400> 267

aaagagcaca ggccagctca gcctgccttg gccatctaga ctcagcctgg ctccatgggg	60
---	----


```

gtttctcagtg ctgagtcctat ccaggaaaag ctcacctaga ctttctgagg ctgaatcttc      120
atcctcacag gcagcttctg agagcctgat attcctagcc ttgatggtct ggagtaaagc      180
ctcattctga ttctctctct tcttttcttt caagttggct ttcttcacat ccctctgttc      240
aatcgcttc agcttgtctg ctttagccct catttcaga agcttcttct ctttggcatc      300
t                                                                                   301

```

```

<210> 268
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 268
aatgtctcac tcaactactt cccagcctac cgtggcctaa ttctgggagt tttcttctta      60
gatcttggga gagctgggtc ttctaaggag aaggaggaag gacagatgta actttggatc      120
tcgaagagga agtctaattg aagtaattag tcaacggtcc ttgtttagac tcttgggaata      180
tgctgggtgg ctcaagtggc ccttttggag aaagcaagta ttattcttaa ggagtaacca      240
cttccattg ttctactttc taccatcatc aattgtatat tatgtattct ttggagaact      300
a                                                                                   301

```

```

<210> 269
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 269
taacaatata cactagctat ctttttaact gtccatcatt agcaccaatg aagattcaat      60
aaaattacct ttattcacac atctcaaac aattctgcaa attcttagtg aagtttaact      120
atagtcacag accttaaata ttacattgt tttctatgtc tactgaaaat aagttcacta      180
cttttctgga tattctttac aaaatcttat taaaattcct ggtattatca cccccaatta      240
tacagtagca caaccacctt atgtagtgtt tacatgatag ctctgtagaa gtttcacatc      300
t                                                                                   301

```

```

<210> 270
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 270
cattgaagag cttttgcgaa acatcagaac acaagtgctt ataaaattaa ttaagcctta      60
cacaagaata catattcctt ttatttctaa ggagttaaac atagatgtag ctgatgtgga      120
gagcttgctg gtgcagtgca tattggataa cactattcat ggccgaattg atcaagtcaa      180
ccaactcctt gaactggatc atcagaagaa ggggtggtgca cgatatactg cactagataa      240
tggaaccaacc aactaaattc tctcaccagg ctgtatcagt aaactggctt aacagaaaac      300
a                                                                                   301

```

```

<210> 271
<211> 301
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1) ... (301)
<223> n = A,T,C or G

```

<400> 271

```

aaaagggttct cataagatta acaattttaa taaatatttg atagaacatt ctttctcatt      60
tttatagctc atcttttaggg ttgatattca gttcatgctt cccttgctgt tcttgatcca      120
gaattgcaat cacttcatca gcctgtattc gctccaattc tctataaagt ggggtccaagg      180
tgaaccacag agccacagca cacctcttcc ccttggtgac tgccttcacc ccatganggt      240
tctctcctcc agatganaac tgatcatgcg ccacacatttt gggttttata gaagcagtca      300
c

```

<210> 272

<211> 301

<212> DNA

<213> Homo sapien

<400> 272

```

taaattgcta agccacagat aacaccaatc aaatggaaca aatcactgtc ttcaaagtgc      60
ttatcagaaa accaaatgag cctggaatct tcataatacc taaacatgcc gtatttagga      120
tccaataatt ccctcatgat gagcaagaaa aattctttgc gcacccctcc tgcattccaca      180
gcatcttctc caacaaatat aaccttgagt ggcttctgtt aatctatgtt ctttgttttc      240
ctaaggactt ccattgcatt tcctacaata ttttctctac gcaccactag aattaagcag      300
g

```

<210> 273

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(301)

<223> n = A,T,C or G

<400> 273

```

acatgtgtgt atgtgtatct ttgggaaaaa aanaagacat cttgtttayt atttttttgg      60
agagangctg ggacatggat aatcacwtaa tttgctayta tyactttaat ctgactygaa      120
gaaccgtcta aaaataaaat ttaccatgct dtatattcct tatagtatgc ttatttcacc      180
ttytttctgt ccagagagag tatcagtgc ananatttma ggggtgaamac atgmattggt      240
gggacttnty tttacngagm accctgcccg sgcgccctcg makengantt ccgcsananc      300
t

```

<210> 274

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(301)

<223> n = A,T,C or G

<400> 274

```

cttatatact ctttctcaga ggcaaaagag gagatgggta atgtagacaa ttctttgagg      60
aacagtaaat gattattaga gagaangaat ggaccaagga gacagaaatt aacttgtaaa      120
tgattctctt tggaatctga atgagatcaa gaggccagct ttagcttggt gaaaagtcca      180
tctaggtatg gttgcattct cgtcttcttt tctgcagtag ataatgaggt aaccgaaggc      240
aattgtgctt cttttgataa gaagctttct tggtcatatc aggaaattcc aganaaagtc      300

```

C

301

<210> 275
<211> 301
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(301)
<223> n = A,T,C or G

<400> 275
tcggtgtcag cagcacgtgg cattgaacat tgcaatgtgg agcccaaacc acagaaaatg 60
gggtgaaatt ggccaacttt ctattaactt atgttggaac ttttgccacc aacagtaagc 120
tgcccttct aataaaagaa aattgaaagg tttctcacta aacggaatta agtagtggag 180
tcaagagact cccaggcctc agcgtacctg cccgggcggc cgctcgaagc cgaattctgc 240
agatatccat cacactggcg gncgctcgan catgcatcta gaaggnccaa ttcgccttat 300
a 301

<210> 276
<211> 301
<212> DNA
<213> Homo sapien

<400> 276
tgtacacata ctcaataaat aaatgactgc attgtggtat tattactata ctgattatat 60
ttatcatgtg acttctaatt agaaaatgta tccaaaagca aaacagcaga tatacaaaat 120
taaagagaca gaagatagac attaacagat aaggcaactt atacattgag aatccaaatc 180
caatacathtt aaacattttgg gaaatgaggg ggacaaatgg aagccagatc aaatttgtgt 240
aaaactattc agtatgtttc ccttgcttca tgtctgagaa ggctctcctt caatggggat 300
g 301

<210> 277
<211> 301
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(301)
<223> n = A,T,C or G

<400> 277
tttgttgatg tcagtatttt attacttgcg ttatgagtgc tcacctggga aattctaaag 60
atacagagga cttggaggaa gcagagcaac tgaatttaat taaaagaag gaaaacattg 120
gaatcatggc actcctgata ctttcccaaa tcaacactct caatgcccc aacctgtcct 180
caccatagtg gggagactaa agtggccacg gatttgcctt angtgtgcag tgcgttctga 240
gttcnctgtc gattacatct gaccagtctc ctttttccga agtcntccg tccaatcttg 300
c 301

<210> 278
<211> 301
<212> DNA
<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(301)

<223> n = A,T,C or G

<400> 278

taccactaca ctccagcctg ggcaacagag caagacctgt ctcaaagcat aaaatggaat	60
aacatatcaa atgaaacagg gaaaatgaag ctgacaattt atggaagcca gggcttgcca	120
cagtctctac tggtattatg cattacctgg gaatttatat aagcccttaa taataatgcc	180
aatgaacatc tcatgtgtgc tcacaatgtt ctggcactat tataagtgtc tcacagggtt	240
tatgtgttct tcgtaacttt atggantagg tactcggccg cgaacacgct aagccgaatt	300
c	301

<210> 279

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(301)

<223> n = A,T,C or G

<400> 279

aaagcaggaa tgacaaagct tgcttttctg gtatgttcta ggtgtattgt gacttttact	60
gttatattaa ttgccaatat aagtaaatat agattatata tgtatagtgt ttcacaaagc	120
ttagaccttt accttccagc caccacacag tgcttgatat ttcagagtca gtcattgggt	180
atacatgtgt agttccaaaag cacataagct agaanaanaa atatttctag ggagcactac	240
catctgtttt cacatgaaat gccacacaca tagaactcca acatcaattt cattgcacag	300
a	301

<210> 280

<211> 301

<212> DNA

<213> Homo sapien

<400> 280

ggtactggag ttttctctcc ctgtgaaaac gtaactactg ttgggagtga attgaggatg	60
tagaaagggt gtggaaccaa attgtgggtc atggaaatat gagaatatgg ttctcactct	120
tgagaaaaaa acctaagatt agcccaggta gttgcctgta acttcagttt ttctgcctgg	180
gtttgatata gtttaggggt ggggttagat taagatctaa attacatcag gacaaagaga	240
cagactatta actccacagt taattaagga ggtatgttcc atgtttattt gttaaagcag	300
t	301

<210> 281

<211> 301

<212> DNA

<213> Homo sapien

<400> 281

aggtagaaga aggggaatgg gaaagagctg ctgctgtggc attgttcaac ttggatatct	60
gccgagcaat ccaaactctg aatgaagggg catcttctga aaaaggagat ctgaatctca	120
atgtggtagc aatggcttta tcgggttata cggatgagaa gaactccctt tggagagaaa	180
tgtgtagcac actgcgatta cagctaaata acccgatttt gtgtgtcatg tttgcatttc	240

tgacaagtga aacaggatct tacgatggag ttttgtatga aaacaaagtt gcagtacctc 300
g 301

<210> 282
<211> 301
<212> DNA
<213> Homo sapien

<400> 282
caggtactac agaattaaaa tactgacaag caagtagttt cttggcgtgc acgaattgca 60
tccagaaccc aaaaattaag aaattcaaaa agacattttg tgggcacctg ctagcacaga 120
agcgcagaag caaagcccag gcagaacctat gctaaccctta cagctcagcc tgcacagaag 180
cgcagaagca aagcccaggc agaaccatgc taacccttaca gctcagcctg cacagaagcg 240
cagaagcaaa gcccaggcag aacatgctaa ccttacagct cagcctgcac agaagcacag 300
a 301

<210> 283
<211> 301
<212> DNA
<213> Homo sapien

<400> 283
atctgtatac ggcagacaaa cttttatarag tgtagagagg tgagcgaaag gatgcaaaag 60
cactttgagg gctttataat aatatgctgc ttgaaaaaaa aaatgtgtag ttgatactca 120
gtgcatctcc agacatagta aggggttgct ctgaccaatc aggtgatcat tttttctatc 180
acttcccagg ttttatgcaa aaattttgtt aaattctata atggtgatat gcattcttta 240
ggaaacatat acatttttaa aaatctattt tatgtaagaa ctgacagacg aatttgcttt 300
g 301

<210> 284
<211> 301
<212> DNA
<213> Homo sapien

<400> 284
caggtacaaa acgctattaa gtggccttaga atttgaacat ttgtggtctt tatttacttt 60
gcttcgtgtg tgggcaaagc aacatcttcc ctaaataat attaccaaga aaagcaagaa 120
gcagattagg tttttgacaa aacaaacagg ccaaaagggg gctgacctgg agcagagcat 180
ggtgagaggc aaggcatgag agggcaagtt tggttgaggc agatctgtgc ctactttatt 240
actggagtaa aagaaaacaa agttcattga tgtcgaagga tatatacagt gttagaaatt 300
a 301

<210> 285
<211> 301
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(301)
<223> n = A,T,C or G

<400> 285
acatcacat gatcggtacc cccacccatt atacgttgta tgtttacata aatactcttc 60
aatgatcatt agtggtttta aaaaaatact gaaaactcct tctgcatccc aatctctaac 120

caggaaagca	aatgctattt	acagacctgc	aagccctccc	tcaaacnaaa	ctatttctgg	180
attaaatatg	tctgacttct	tttgagggtca	cacgactagg	caaatgctat	ttacgatctg	240
caaaagctgt	ttgaagagtc	aaagccccc	tgtgaacacg	atttctggac	cctgtaacag	300
t						301

```
<210> 286
<211> 301
<212> DNA
<213> Homo sapien
```

<400> 286						
taccactgca	ttccagcctg	ggtgacagag	tgagactccg	tctccaaaaa	aaacttttgct	60
tgtatattat	ttttgcctta	cagtggatca	ttctagtagg	aaaggacagt	aagatttttt	120
atcaaaatgt	gtcatgccag	taagagatgt	tatattcttt	tctcatttct	tccccacca	180
aaaataagct	accatatagc	ttataagtct	caaatttttg	ccttttacta	aaatgtgatt	240
gtttctgttc	atttgttatg	cttcacacc	tatattaggc	aaattccatt	ttttcccttg	300
t						301

```
<210> 287
<211> 301
<212> DNA
<213> Homo sapien
```

<400> 287						
tacagatctg	ggaactaaat	attaaaaatg	agtgtggctg	gatatatgga	gaatgttggg	60
cccagaagga	acgtagagat	cagatattac	aacagctttg	ttttgagggt	tagaaatatg	120
aaatgatttg	gttatgaacg	cacagttag	gcagcagggc	cagaatcctg	accctctgcc	180
ccgtggttat	ctcctcccca	gcttggctgc	ctcatgttat	cacagtattc	cattttgttt	240
gttgcatgtc	ttgtgaagcc	atcaagattt	tctcgtctgt	tttcctctca	ttggtaatgc	300
t						301

```
<210> 288
<211> 301
<212> DNA
<213> Homo sapien
```

<400> 288						
gtacacctaa	ctgcaaggac	agctgaggaa	tgtaatgggc	agccgctttt	aaagaagtag	60
agtcaatagg	aagacaaatt	ccagtctccag	ctcagtctgg	gtatctgcaa	agctgcaaaa	120
gatcttttaa	gacaatttca	agagaatatt	tccttaaagt	tggcaatttg	gagatcatat	180
aaaagcatct	gcttttgtga	tttaatttag	ctcatctggc	cactggaaga	atccaaacag	240
tctgccttaa	ttttggatga	atgcatgatg	gaaattcaat	aatttagaaa	gttaaaaaaa	300
a						301

```
<210> 289
<211> 301
<212> DNA
<213> Homo sapien
```

```
<220>
<221> misc_feature
<222> (1) ... (301)
<223> n = A,T,C or G
```

<400> 289

```

ggtaactgtg  ttccatgtta  tgtttctaca  cattgctacc  tcagtgtccc  tggaaactta      60
gcttttgatg  tctccaagta  gtccaccttc  atttaactct  ttgaaactgt  atcatctttg     120
ccaagtaaga  gtgggtggcct  atttcagctg  ctttgacaaa  atgactggct  cctgacttaa     180
cgttctataa  atgaatgtgc  tgaagcaaag  tgcccatggg  ggcggcgaan  aagagaaaga     240
tgtgttttgt  tttggactct  ctgtgggtccc  ttccaatgct  gtgggtttcc  aaccagnnga     300
a                                                    301

```

```

<210> 290
<211> 301
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(301)
<223> n = A,T,C or G

```

```

<400> 290
acactgagct  cttcttgata  aatatacaga  atgcttggca  tatacaagat  tctatactac      60
tgactgatct  gttcatttct  ctcacagctc  ttaccccaaa  aagcttttcc  accctaagtg     120
ttctgacctc  cttttctaata  cacagtaggg  atagaggcag  anccacctac  aatgaacatg     180
gagttctatc  aagaggcaga  aacagcacag  aatcccagtt  ttaccattcg  ctagcagtgc     240
tgccttgaac  aaaaacattt  ctccatgtct  cattttcttc  atgcctcaag  taacagtggag     300
a                                                    301

```

```

<210> 291
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 291
caggtaccaa  tttcttctat  cctagaaaca  tttcatttta  tgttgttgaa  acataacaac      60
tatatcagct  agattttttt  tctatgcttt  acctgctatg  gaaaatttga  cacattctgc     120
tttactcttt  tgtttatagg  tgaatcacia  aatgtatttt  tatgtattct  gtagttcaat     180
agccatggct  gtttacttca  ttttaatttt  ttagcataaa  gacattatga  aaaggcctaa     240
acatgagctt  cacttcccca  ctaactaatt  agcatctggt  atttcttaac  cgtaatgcct     300
a                                                    301

```

```

<210> 292
<211> 301
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(301)
<223> n = A,T,C or G

```

```

<400> 292
accttttagt  agtaatgtct  aataataaat  aagaaatcaa  ttttataagg  tccatatagc      60
tgtattaaat  aatttttaag  tttaaaagat  aaaataccat  cattttaaat  gttgggtattc     120
aaaaccaaag  natataaccg  aaaggaaaaa  cagatgagac  ataaaatgat  ttgcnagatg     180
ggaaatatag  tastyatga  atgttnatta  aattccagtt  ataatagtgg  ctacacactc     240
tcactacaca  cacagacccc  acagtcctat  atgccacaaa  cacatttcca  taacttgaaa     300
a                                                    301

```

<210> 293
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 293
 ggtaccaagt gctgggtgcca gcctgttacc tgttctcact gaaaagtctg gctaattgctc 60
 ttgtgtagtc acttctgatt ctgacaatca atcaatcaat ggcctagagc actgactgtt 120
 aacacaaaacg tctactagcaa agtagcaaca gctttaagtc taaatacaaa gctgttctgt 180
 gtgagaattt tttaaaaggc tacttgata ataacccttg tcatttttaa tgtacctcgg 240
 ccgcgaccac gctaagccga attctgcaga tatccatcac actggcgggc gctcgagcat 300
 g 301

<210> 294
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 294
 tgaccataa caatatacac tagctatctt ttttaactgtc catcattagc accaatgaag 60
 attcaataaa attaccttta ttcacacatc tcaaaaacaat tctgcaaatt cttagtgaag 120
 ttttaactata gtcacaganc ttaaataattc acattgtttt ctatgtctac tgaaaataag 180
 ttcactactt ttctgggata ttctttacaa aatcttatta aaattcctgg tattatcacc 240
 cccaattata cagtagcaca accaccttat gtagttttta catgatagct ctgtagaggt 300
 t 301

<210> 295
 <211> 305
 <212> DNA
 <213> Homo sapien

<400> 295
 gtactctttc tctccctccc tctgaattta attctttcaa cttgcaattt gcaaggatta 60
 cacatttcac tgtgatgtat attgtgttgc aaaaaaaaaa gtgtctttgt ttaaaattac 120
 ttggtttggt aatccatctt gctttttccc cattggaact agtcattaac ccatctctga 180
 actggtagaa aaacrtctga agagctagtc tatcagcatc tgacagggtga attggatggg 240
 tctcagaacc atttcaccca gacagcctgt ttctatcctg ttttaataaat tagtttgggg 300
 tctct 305

<210> 296
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 296
 aggtactatg ggaagctgct aaaataatat ttgatagtaa aagtatgtaa tgtgctatct 60
 cacctagtag taaactaaaa ataaactgaa actttatgga atctgaagtt attttccttg 120
 attaaataga attaataaac caatatgagg aaacatgaaa ccatgcaatc tactatcaac 180
 ttgaaaaag tgattgaacg aaccacttag ctttcagatg atgaacactg ataagtcatt 240

tgtcattact ataaatttta aaatctgtta ataagatggc ctatagggag gaaaaagggg 300
c 301

<210> 297
<211> 300
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(300)
<223> n = A,T,C or G

<400> 297
actgagtttt aactggacgc caagcaggca aggctggaag gttttgctct ctttgtgcta 60
aaggttttga aaaccttgaa ggagaatcat ttgacaaga agtacttaag agtctagaga 120
acaaagangt gaaccagctg aaagctctcg ggggaanctt acatgtgttg ttaggcctgt 180
tccatcattg ggagtgcact ggccatccct caaaatttgt ctgggctggc ctgagtggc 240
accgcacctc ggccgcgacc acgctaagcc gaattctgca gatatccatc acactggcgg 300

<210> 298
<211> 301
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(301)
<223> n = A,T,C or G

<400> 298
tatgggggttt gtcacccaaa agctgatgct gagaaaggcc tccctggggc ccctcccgcg 60
ggcatctgag agacctggtg ttccagtgtt tctggaaatg ggtcccagtg ccgcccgtg 120
tgaagctctc agatcaatca cgggaagggc ctggcggtgg tggccacctg gaaccacct 180
gtcctgtctg tttaacattc actaycaggt tttctctggg cattacnatt tgttccccta 240
caacagtgcac ctgtgcattc tgctgtggcc tgctgtgtct gcaggtggct ctacagcagg 300
t 301

<210> 299
<211> 301
<212> DNA
<213> Homo sapien

<400> 299
gttttgagac ggagtttcac tcttgttgcc cagactggac tgcaatggca gggctctctgc 60
tactgcacc ctctgcctcc caggttcgag caattctcct gcctcagcct cccaggtagc 120
tgggattgca ggctcacgcc accataccca gctaattttt ttgtattttt agtagagacg 180
gagtttcgcc atgttggcc gctggtctca aactcctgac ctcaagcgac ctgcctgcct 240
cggcctccca aagtgctgga attataggca tgagtcaaca cgcccagcct aaagatattt 300
t 301

<210> 300
<211> 301
<212> DNA
<213> Homo sapien

<400> 300

attcagtttt	atttgctgcc	ccagtatctg	taaccaggag	tgccacaaaa	tcttgccaga	60
tatgtccac	acccactggg	aaaggctccc	acctggctac	ttcctctatc	agctgggtca	120
gctgcattcc	acaaggttct	cagcctaata	agtttcaacta	cctgccagtc	tcaaaactta	180
gtaaagcaag	accatgacat	tccccacgg	aaatcagagt	ttgccccacc	gtcttggtac	240
tataaagcct	gcctctaaca	gtccttgctt	cttcacacca	atcccgagcg	catcccccat	300
g						301

<210> 301

<211> 301

<212> DNA

<213> Homo sapien

<400> 301

ttaaattttt	gagaggataa	aaaggacaaa	taatctagaa	atgtgtcttc	ttcagtctgc	60
agaggacccc	aggtctccaa	gcaaccacat	gggtcaagggc	atgaataatt	aaaagttggt	120
gggaactcac	aaagaccctc	agagctgaga	caccacacaac	agtgggagct	cacaaagacc	180
ctcagagctg	agacaccac	aacagtggga	gtcacaaaag	accctcagag	ctgagacacc	240
cacaacagca	cctcgttcag	ctgccacatg	tgtgaataag	gatgcaatgt	ccagaagtgt	300
t						301

<210> 302

<211> 301

<212> DNA

<213> Homo sapien

<400> 302

aggtacacat	ttagcttggt	gtaaatgact	cacaaaactg	atttttaa	caagttaatg	60
tgaattttga	aaattactac	ttaatcctaa	ttcacataa	caatggcatt	aaggtttgac	120
ttgagttggt	tcttagtatt	atztatggta	aataggctct	taccacttgc	aaataactgg	180
ccacatcatt	aatgactgac	ttcccagtaa	ggctctctaa	ggggtaagta	ggaggatcca	240
caggatttga	gatgctaagg	ccccagagat	cgtttgatcc	aaccctctta	ttttcagagg	300
g						301

<210> 303

<211> 301

<212> DNA

<213> Homo sapien

<400> 303

aggtaccaac	tgtggaaata	ggtagaggat	cattttttct	ttccatatca	actaagttgt	60
atattgtttt	ttgacagttt	aacacatctt	cttctgtcag	agattctttc	acaatagcac	120
tggctaattg	aactaccgct	tgcagtgtta	aaatgggtgt	ttgtgaaatg	atcataggcc	180
agtaacgggt	atgtttttct	aactgatctt	ttgctcgttc	caaagggacc	tcaagacttc	240
catcgatttt	atatctgggg	tctagaaaag	gagttaatct	gttttccctc	ataaattcac	300
c						301

<210> 304

<211> 301

<212> DNA

<213> Homo sapien

<400> 304

acatggatgt	tattttgcag	actgtcaacc	tgaatttgta	tttgcttgac	attgcctaata	60
------------	------------	------------	------------	------------	-------------	----

```

tattagtttc agtttcagct tacccacttt ttgtctgcaa catgcaraas agacagtgcc      120
cttttttagtg tatcatatca ggaatcatct cacattgggt tgtgccatta ctgggtgcagt      180
gactttcagc cacttgggta aggtggagtt ggccatatgt ctccactgca aaattactga      240
ttttcctttt gtaattaata agtgtgtgtg tgaagattct ttgagatgag gtatatatct      300
c                                                                                   301

```

```

<210> 305
<211> 301
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(301)
<223> n = A,T,C or G

```

```

<400> 305
gangtacagc gtgggtcaagg taacaagaag aaaaaaatgt gagtggcatc ctgggatgag      60
caggggggaca gacctggaca gacacgttgt catttgctgc tgtgggtagg aaaatgggag      120
taaaggagga gaaacagata caaatctcc aactcagtat taaggatttc tcatgcctag      180
aatattggta gaaacaagaa tacattcata tggcaaataa ctaaccatgg tggaacaaaa      240
ttctgggatt taagttggat accaangaaa ttgtattaaa agagctgttc atggaataag      300
a                                                                                   301

```

```

<210> 306
<211> 8
<212> PRT
<213> Homo sapien

```

```

<400> 306
Val Leu Gly Trp Val Ala Glu Leu
1                               5

```

```

<210> 307
<211> 637
<212> DNA
<213> Homo sapien

```

```

<400> 307
acagggratg aagggaaggg gagaggatga ggaagccccc ctggggattt ggtttgggtcc      60
ttgtgatcag gtggtctatg gggcttatcc ctacaaagaa gaatccagaa atagggggcac      120
attgaggaat gatacttgag cccaaagagc attcaatcat tgttttattt gccttmtttt      180
cacaccattg gtgagggagg gattaccacc ctggggttat gaagatgggt gaacacccca      240
cacatagcac cggagatatg agatcaacag tttcttagcc atagagattc acagcccaga      300
gcaggaggac gcttgcacac catgcaggat gacatggggg atgcgctcgg gattggtgtg      360
aagaagcaag gactgttaga ggcaggcttt atagtaacaa gacgggtgggg caaactctga      420
tttccgtggg ggaatgtcat ggtcttgctt tactaagttt tgagactggc aggtagtga      480
actcattagg ctgagaacct tgtggaatgc acttgaccca sctgatagag gaagtagcca      540
gggtgggagcc tttcccagtg ggtgtgggac atatctggca agattttgtg gcactcctgg      600
ttacagatac tggggcagca aataaaaactg aatcttg                                     637

```

```

<210> 308
<211> 647
<212> DNA
<213> Homo sapien

```

<220>
 <221> misc_feature
 <222> (1)...(647)
 <223> n = A,T,C or G

<400> 308

acgattttca	ttatcatgta	aatcgggtca	ctcaaggggc	caaccacagc	tgggagccac	60
tgctcagggg	aaggttcata	tgggactttc	tactgcccac	ggttctatac	aggatataaa	120
ggngcctcac	agtatagatc	tggtagcaaa	gaagaagaaa	caaacactga	tctctttctg	180
ccacccctct	gacccttttg	aactcctctg	acccttttaga	acaagcctac	ctaatactctg	240
ctagagaaaa	gaccaacaac	ggcctcaaaag	gatctcttac	catgaagggtc	tcagctaatt	300
cttggctaag	atgtgggttc	cacattaggt	tctgaatatg	gggggaagggt	tcaatttgct	360
cattttgtgt	gtggataaag	tcaggatgcc	caggggccag	agcagggggc	tgcttgcttt	420
gggaacaatg	gctgagcata	taaccatagg	ttatggggaa	caaaacaaca	tcaaagtcac	480
tgtatcaatt	gccatgaaga	cttgagggac	ctgaatctac	cgattcatct	taaggcagca	540
ggaccagttt	gagtggcaac	aatgcagcag	cagaatcaat	ggaaacaaca	gaatgattgc	600
aatgtccttt	tttttctcct	gcttctgact	tgataaaaagg	ggaccgt		647

<210> 309
 <211> 460
 <212> DNA
 <213> Homo sapien

<400> 309

actttatagt	ttaggctgga	cattggaaaa	aaaaaaaaagc	cagaacaaca	tgtgatagat	60
aatatgattg	gctgcacact	tccagactga	tgaatgatga	acgtgatgga	ctattgtatg	120
gagcacatct	tcagcaagag	ggggaaatac	tcattcatttt	tggccagcag	ttgtttgatc	180
accaaaccac	atgccagaat	actcagcaaa	ccttcttagc	tcttgagaag	tcaaagtccg	240
ggggaattta	ttcctggcaa	ttttaattgg	actccttatg	tgagagcagc	ggctaccag	300
ctggggtggt	ggagcgaacc	cgtcactagt	ggacatgcag	tggcagagct	cctggtaacc	360
acctagagga	atacacaggc	acatgtgtga	tgccaagcgt	gacacctgta	gcactcaaat	420
ttgtcttggt	tttgtctttc	ggtgtgtaag	attcttaagt			460

<210> 310
 <211> 539
 <212> DNA
 <213> Homo sapien

<400> 310

acgggactta	tcaaataaag	ataggaaaag	aagaaaactc	aaatattata	ggcagaaatg	60
ctaaaggttt	taaaatatgt	caggattgga	agaaggcatg	gataaagaac	aaagttcagt	120
taggaaagag	aaacacagaa	ggaagagaca	caataaaaagt	cattatgtat	tctgtgagaa	180
gtcagacagt	aagattttgtg	ggaaatgggt	tggttttgtt	tatggtatgt	atttttagcaa	240
taatctttat	ggcagagaaa	gctaaaatcc	tttagcttgc	gtgaatgatc	acttgctgaa	300
ttcctcaagg	taggcattgat	gaaggagggt	ttagaggaga	cacagacaca	atgaactgac	360
ctagatagaa	agccttagta	tactcagcta	ggaatagtga	ttctgagggc	acactgtgac	420
atgattatgt	cattacatgt	atggtagtga	tggggatgat	aggaaggaag	aacttatggc	480
atattttcac	ccccacaaaa	gtcagttaaa	tattggggaca	ctaaccatcc	aggtcaaga	539

<210> 311
 <211> 526
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(526)
 <223> n = A,T,C or G

<400> 311
 caaatttgag ccaatgacat agaattttac aaatcaagaa gcttattctg gggccatttc 60
 ttttgacgtt ttctctaaac tactaaagag gcattaatga tccataaatt atattatcta 120
 catttacagc atttaaaatg tggtcagcat gaaatattag ctacagggga agctaaataa 180
 attaaacatg gaataaagat ttgtccttaa atataatcta caagaagact ttgatatttg 240
 tttttcacia gtgaagcatt cttataaagt gtcataacct ttttggggaa actatgggaa 300
 aaaatgggga aactctgaag ggttttaagt atcttacctg aagctacaga ctccataacc 360
 tctctttaca gggagctcct gcagccccta cagaaatgag tggctgagat tcttgattgc 420
 acagcaagag cttctcatct aaaccctttc ctttttagt atctgtgtat caagtataaa 480
 agttctataa actgtagtnt acttatttta atcccaaag cacagt 526

<210> 312
 <211> 500
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(500)
 <223> n = A,T,C or G

<400> 312
 cctctctctc cccaccccct gactctagag aactgggttt tctcccagta ctccagcaat 60
 tcattttctga aagcagttga gccactttat tccaaagtag actgcagatg ttcaaactct 120
 ccattttctct ttccttcca cctgccagtt ttgtgactc tcaactgtc atgagtgtaa 180
 gcattaagga cattatgctt cttcgattct gaagacaggc cctgctcatg gatgactctg 240
 gcttcttagg aaaatatttt ttttccaaaa tcagtaggaa atctaaactt atccctctt 300
 tgcagatgtc tagcagcttc agacatttgg ttaagaacct atgggaaaaa aaaaaatcct 360
 tgctaattgtg gtttcctttg taaaccanga ttcttatttg nctggatatag aatatcagct 420
 ctgaacgtgt ggtaaagatt tttgtgtttg aatataggag aaatcagttt gctgaaaagt 480
 tagtcttaat tatctattgg 500

<210> 313
 <211> 718
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(718)
 <223> n = A,T,C or G

<400> 313
 ggagatttgt gtggtttgca gccgagggag accaggaaga tctgcatggt gggaggacc 60
 tgatgataca gaggtgagaa ataagaaagg ctgctgactt taccatctga ggccacacat 120
 ctgctgaaat ggagataatt aacatcacta gaaacagcaa gatgacaata taatgtctaa 180
 gtagtgacat gtttttgacac atttccagcc cttttaaata tccacacaca cagggaagcac 240
 aaaaggaagc acagagatcc ctgggagaaa tgcccggccg ccattcttggg tcatcgatga 300
 gcctcgccct gtgcctgntc ccgcttgtga gggaaggaca ttagaaaatg aattgatgtg 360
 ttccttaaag gatggcagga aaacagatcc tggtgtggat atttatttga acgggattac 420

agatttgaaa tgaagtcaca aagtgagcat taccaatgag aggaaaacag acgagaaaat	480
cttgatgggt cacaagacat gcaacaaaca aaatggaata ctgtgatgac acgagcagcc	540
aactggggag gagataccac ggggcagagg tcaggattct ggccctgctg cctaactgtg	600
cgttatacca atcatttcta tttctaccct caaacaagct gtngaataatc tgacttacgg	660
ttcttntggc ccacattttc atnatccacc ccntcntttt aannttantic caaantgt	718

<210> 314

<211> 358

<212> DNA

<213> Homo sapien

<400> 314

gtttattttac attacagaaa aaacatcaag acaatgtata ctatttcaaa tatatccata	60
cataatcaaa tatagctgta gtacatgttt tcattgggtgt agattaccac aaatgcaagg	120
caacatgtgt agatctcttg tcttattctt ttgtctataa tactgtattg ttagtccaa	180
gctctcggtta gtccagccac tgtgaaacat gctcccttta gattaacctc gtggacgctc	240
ttgttgatt gctgaactgt agtgccctgt attttgcttc tgtctgtgaa ttctgttgc	300
tctggggcat ttccttgtga tgcagaggac caccacacag atgacagcaa tctgaatt	358

<210> 315

<211> 341

<212> DNA

<213> Homo sapien

<400> 315

taccacctcc ccgctggcac tgatgagccg catcaccatg gtcaccagca ccatgaaggc	60
ataggtgatg atgaggacat ggaatgggcc cccaaggatg gtctgtccaa agaagcgagt	120
gacccccatt ctgaagatgt ctggaacctc taccagcagg atgatgatag cccaatgac	180
agtcaccagc tccccgacca gccggatata gtccttaggg gtcatgtagg ctctctgaag	240
tagcttctgc tgtaagaggg tgttgctccg ggggctcgtg cggttattgg tcctgggctt	300
gagggggcgg tagatgcagc acatggtgaa gcagatgatg t	341

<210> 316

<211> 151

<212> DNA

<213> Homo sapien

<400> 316

agactgggca agactcttac gccccacact gcaatttggt cttgttgccg tatccattta	60
tgtgggcctt tctcgagttt ctgattataa acaccactgg agcgatgtgt tgactggact	120
cattcagggg gctctgggtg caatattagt t	151

<210> 317

<211> 151

<212> DNA

<213> Homo sapien

<400> 317

agaactagt gattcctaag aaataacctga aacatatatt ggcatttatac aatgggtcaa	60
atcttcattt atctctggcc ttaaccctgg ctcctgaggg tgcggccagc agatcccagg	120
ccagggctct gttcttgcca cacctgcttg a	151

<210> 318

<211> 151

<212> DNA

<213> Homo sapien

<400> 318

actggtggga ggcgctgttt agttggctgt tttcagaggg gtcttttcgga gggacctcct	60
gctgcaggct ggagtgtctt tttcctggc gggagaccgc acattccact gctgaggctg	120
tgggggcggt ttatcaggca gtgataaaca t	151

<210> 319

<211> 151

<212> DNA

<213> Homo sapien

<400> 319

aactagtggga tccagagcta taggtacagt gtgatctcag ctttgcaaac acattttcta	60
catagatagt actaggtatt aatagatatg taaagaaaga aatcacacca ttaataatgg	120
taagattggg tttatgtgat tttagtgggt a	151

<210> 320

<211> 150

<212> DNA

<213> Homo sapien

<400> 320

aactagtggga tccactagtc cagtgtgggtg gaattccatt gtgttggggt tctagatcgc	60
gagcggctgc cctttttttt tttttttttg ggggggaatt tttttttttt aatagttatt	120
gagtgttcta cagcttacag taaataccat	150

<210> 321

<211> 151

<212> DNA

<213> Homo sapien

<400> 321

agcaactttg tttttcatcc aggttatattt aggcttagga tttcctctca cactgcagtt	60
taggggtggca ttgtaaccag ctatggcata ggtgttaacc aaaggctgag taaacatggg	120
tgcctctgag aaatcaaagt cttcatacac t	151

<210> 322

<211> 151

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(151)

<223> n = A,T,C or G

<400> 322

atccagcadc ttctcctggt tcttgccttc ctttttcttc ttcttasatt ctgcttgagg	60
tttgggcttg gtcagtttgc cacagggctt ggagatgggtg acagtcttct ggcattcggc	120
attgtgcagg gctcgttcca nacttccagt t	151

<210> 323

<211> 151

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(151)

<223> n = A,T,C or G

<400> 323

tgaggacttg tktttctttt ctttattttt aatcctctta ckttgtaa	atattgccta	60
nagactcant tactaccag tttgtggtt twtgggagaa atgtaactgg	acagttagct	120
gttcaatyaa aaagacactt anccccatgtg g		151

<210> 324

<211> 461

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(461)

<223> n = A,T,C or G

<400> 324

acctgtgtgg aatttcagct ttccatcatgc aaaaggattt tgtatccccg	gcctacttga	60
agaagtgggc agctaaagga atccagggtg ttggttgga	tgtaataacc tttgatgaaa	120
agagttacta cgaatcccat cttggttcca gctatatcac	tgacagcatg gtagaagact	180
gcgaacctca cttctagact ttcacgggtg	gacgaaacgg gtccagaaac	240
ctcatcacagg gatatacaaaa taccctttgt	gctacccagg cctggggaa	300
cacacaaatg caatagttgg tcaactgcatt	tttacctgaa ccaaagctaa	360
gccaccatgc accatggcat gccagagttc	aacactgttg ctcttgaaaa	420
aaaaacgcac aagagccct gccctgccct	agctgangca c	461

<210> 325

<211> 400

<212> DNA

<213> Homo sapien

<400> 325

acactgtttc catgttatgt ttctacacat tgctacctca	gtgctcctgg aaacttagct	60
tttgatgtct ccaagtagtc caccttcatt taactctttg	aaactgtatc atctttgcca	120
agtaagagtg gtggcctatt tcagctgctt tgacaaaatg	actggctcct gacttaacgt	180
tctataaatg aatgtgctga agcaaagtgc ccatggtggc	ggcgaagaag agaaagatgt	240
gttttgttt ggactctctg tggctccctc caatgctgtg	ggtttccaac caggggaagg	300
gtcccttttg cattgccaag tgccataacc atgagcacta	cgctaccatg gttctgcctc	360
ctggccaagc aggctggttt gcaagaatga aatgaatgat		400

<210> 326

<211> 1215

<212> DNA

<213> Homo sapien

<400> 326

ggaggactgc agcccgact cgcagccctg gcaggcgga	ctggctcatgg aaaacgaatt	60
gttctgctcg ggcgtcctgg tgcacccgca gtgggtgctg	tcagccgcac actgtttcca	120
gaactcctac accatcgggc tgggcctgca cagtcttgag	gccgaccaag agccagggag	180


```

ccagatggtg gaggccagcc tctccgtacg gcacccagag tacaacagac ccttgctcgc 240
taacgacctc atgctcatca agttggacga atccgtgtcc gagtctgaca ccatccggag 300
catcagcatt gcttcgcagt gccctaccgc ggggaactct tgectcgttt ctggctgggg 360
tctgctggcg aacggcagaa tgcctaccgt gctgcagtgc gtgaacgtgt cggtggtgtc 420
tgaggaggtc tgcagtaagc tctatgacct gctgtaccac cccagcatgt tctgcgccgg 480
cggaggggcaa gaccagaagg actcctgcaa cggtgactct gggggggccc tgatctgcaa 540
cgggtacttg cagggccttg tgtctttcgg aaaagccccg tgtggccaag ttggcgtgcc 600
aggtgtctac accaaccctc gcaaattcac tgagtggata gagaaaaccg tccaggccag 660
ttaactctgg ggactgggaa cccatgaaat tgacccccaa atacatcctg cggaaggaa 720
tcaggaatat ctgttcccag cccctcctcc ctcaggccca ggagtccagg cccccagccc 780
ctcctccctc aaaccaaggg tacagatccc cagccccctc tccctcagac ccaggagtcc 840
agacccccca gccctcctc cctcagacct aggagtccag cccctcctcc ctcagaccca 900
ggagtccaga cccccagcc cctcctcctt cagacccagg ggtccaggcc cccaaccctt 960
cctccctcag actcagaggt ccaagcccc aaccctcct tccccagacc cagaggtcca 1020
ggtcccagcc cctcctcctt cagacccagc ggtccaatgc cacctagact ctcctgtac 1080
acagtgcccc cttgtggcac gttgacccaa ccttaccagt tggtttttca tttttgtcc 1140
ctttccccta gatccagaaa taaagtctaa gagaagcgca aaaaaaaaaa aaaaaaaaaa 1200
aaaaaaaaa aaaaaa

```

<210> 327

<211> 220

<212> PRT

<213> Homo sapien

<400> 327

```

Glu Asp Cys Ser Pro His Ser Gln Pro Trp Gln Ala Ala Leu Val Met
1      5      10      15
Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp Val
20     25     30
Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu Gly
35     40     45
Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val Glu
50     55     60
Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro Leu Leu Ala
65     70     75     80
Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser Asp
85     90     95
Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly Asn
100    105    110
Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly Arg Met Pro
115    120    125
Thr Val Leu Gln Cys Val Asn Val Ser Val Val Ser Glu Glu Val Cys
130    135    140
Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe Cys Ala Gly
145    150    155    160
Gly Gly Gln Asp Gln Lys Asp Ser Cys Asn Gly Asp Ser Gly Gly Pro
165    170    175
Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe Gly Lys Ala
180    185    190
Pro Cys Gly Gln Val Gly Val Pro Gly Val Tyr Thr Asn Leu Cys Lys
195    200    205
Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Ala Ser
210    215    220

```

<210> 328

<211> 234
 <212> DNA
 <213> Homo sapien

<400> 328
 cgctcgtctc tggtagctgc agccaaatca taaacggcga ggactgcagc ccgcactcgc 60
 agccctggca ggcggcactg gtcattggaaa acgaattggt ctgctcgggc gtcctgggtgc 120
 atccgcagtg ggtgctgtca gccacacact gtttccagaa ctctacacc atcgggctgg 180
 gcctgcacag tcttgaggcc gaccaagagc caggagacca gatggtggag gcca 234

<210> 329
 <211> 77
 <212> PRT
 <213> Homo sapien

<400> 329
 Leu Val Ser Gly Ser Cys Ser Gln Ile Ile Asn Gly Glu Asp Cys Ser
 1 5 10 15
 Pro His Ser Gln Pro Trp Gln Ala Ala Leu Val Met Glu Asn Glu Leu
 20 25 30
 Phe Cys Ser Gly Val Leu Val His Pro Gln Trp Val Leu Ser Ala Thr
 35 40 45
 His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu Gly Leu His Ser Leu
 50 55 60
 Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val Glu Ala
 65 70 75

<210> 330
 <211> 70
 <212> DNA
 <213> Homo sapien

<400> 330
 cccaacacaa tggcccgatc ccattccctga ctccgccctc aggatcgctc gtctctggta 60
 gctgcagcca 70

<210> 331
 <211> 22
 <212> PRT
 <213> Homo sapien

<400> 331
 Gln His Asn Gly Pro Ile Pro Ser Leu Thr Pro Pro Ser Gly Ser Leu
 1 5 10 15
 Val Ser Gly Ser Cys Ser
 20

<210> 332
 <211> 2507
 <212> DNA
 <213> Homo sapien

<400> 332
 tgggtgccgt gcagccggca gagatgggtg agctcatgtt cccgctggtg ctctccttc 60
 tgcccttctt tctgtatatg gctgcgcccc aaatcaggaa aatgctgtcc agtgggggtg 120

gtacatcaac	tgttcagctt	cctgggaaaag	tagttgtggt	cacaggagct	aatacaggta	180
tcgggaagga	gacagccaaa	gagctggctc	agagaggagc	tcgagtatat	ttagcttgcc	240
gggatgtgga	aaagggggaa	ttggtggcca	aagagatcca	gaccacgaca	gggaaccagc	300
aggtgttggt	gcggaaactg	gacctgtctg	atactaagtc	tattcgagct	tttgctaagg	360
gcttcttagc	tgaggaaaag	cacctccacg	ttttgatcaa	caatgcagga	gtgatgatgt	420
gtccgtactc	gaagacagca	gatggctttg	agatgcacat	aggagtcaac	cacttgggtc	480
acttcctcct	aacctatctg	ctgctagaga	aactaaagga	atcagcccca	tcaaggatag	540
taaatgtgtc	ttccctcgca	catcacctgg	gaaggatcca	cttccataac	ctgcagggcg	600
agaaattcta	caatgcaggc	ctggcctact	gtcacagcaa	gctagccaac	atcctcttca	660
cccaggaact	ggcccggaga	ctaaaaggct	ctggcggtac	gacgtattct	gtacaccctg	720
gcacagtcca	atctgaactg	gttcggcact	catctttcat	gagatggatg	tggtggcttt	780
tctccttttt	catcaagact	cctcagcagg	gagcccagac	cagcctgcac	tgtgccttaa	840
cagaaggctc	tgagattcta	agtgggaatc	atttcagtga	ctgtcatgtg	gcatgggtct	900
ctgccccagc	tcgtaatgag	actatagcaa	ggcggctgtg	ggacgtcagt	tgtgacctgc	960
tgggcctccc	aatagactaa	caggcagtcg	cagttggacc	caagagaaga	ctgcagcaga	1020
ctacacagta	cttcttgtca	aaatgattct	ccttcaaggt	tttcaaaaacc	tttcagcaca	1080
agagagcaaa	accttccagc	cttgctgtct	tggtgtccag	ttaaaactca	gtgtactgcc	1140
agattcgtct	aaatgtctgt	catgtccaga	tttactttgc	ttctgttact	gccagagtta	1200
ctagagatat	cataatagga	taagaagacc	ctcatatgac	ctgcacagct	cattttcctt	1260
ctgaaagaaa	ctactaccta	ggagaatcta	agctatagca	gggatgattt	atgcaaattt	1320
gaactagctt	ctttgttcac	aattcagttc	ctcccaacca	accagtcttc	acttcaagag	1380
ggccacactg	caacctcagc	ttaacatgaa	taacaaagac	tggtctagga	gcagggcttg	1440
cccaggcatg	gtggatcacc	ggaggtcagt	agttcaagac	cagcctggcc	aacatgggtga	1500
aacccccact	ctactaaaaa	ttgtgtatat	ctttgtgtgt	cttctgtttt	atgtgtgcca	1560
agggagtatt	ttcacaaggt	tcaaaacagc	cacaataatc	agagatggag	caaaccagtg	1620
ccatccagtc	tttatgcaaa	tgaaatgctg	caaagggaag	cagattctgt	atatgttggt	1680
aactaccac	caagagcaca	tgggtagcag	ggaagaagta	aaaaaayaga	aggagaatac	1740
tgaagataa	tgcacaaaat	gaagggacta	gttaaggatt	aactagccct	ttaaygatta	1800
actagttaag	gattaatagc	aaaagayatt	aaatatgcta	acatagctat	ggaggaattg	1860
agggcaagca	cccaggactg	atgaggtctt	aacaaaaacc	agtgtggcaa	aaaaaaaaaa	1920
aaaaaaaaaa	aaaaatccta	aaaacaaaca	aacaaaaaaa	acaattcttc	attcagaaaa	1980
attatcttag	ggactgatat	tggtaatatt	ggtcaatttt	ataatatttt	ggggcatttc	2040
cttacattgt	cttgacaaga	ttaaaatgtc	tgtgccaaaa	ttttgtattt	tatttgagaa	2100
cttcttatca	aaagtaatgc	tgccaaagga	agtctaagga	attagtagtg	ttcccatcac	2160
ttgtttggag	tgtgctattc	taaaagattt	tgatttcctg	gaatgacaat	tatatattta	2220
ctttgggtgg	ggaaagagtt	ataggaccac	agtccttact	tctgatactt	gtaaattaat	2280
cttttattgc	acttgttttg	accattaagc	tatatgttta	gaaatgggtc	ttttacggaa	2340
aaattagaaa	aattctgata	atagtgcaga	ataaatgaat	taatgtttta	cttaatttat	2400
attgaactgt	caatgacaaa	taaaaattct	ttttgattat	tttttgtttt	catttaccag	2460
aataaaaaacg	taagaattaa	aagtttgatt	acaaaaaaaa	aaaaaaa		2507

<210> 333

<211> 3030

<212> DNA

<213> Homo sapien

<400> 333

gcaggcgact	tgcgagctgg	gagcgattta	aaacgctttg	gattcccccg	gcctgggtgg	60
ggagagcgag	ctgggtgccc	cctagattcc	ccgccccgcg	acctcatgag	ccgaccctcg	120
gtcccatgga	gccccggcaat	tatgccacct	tggatggagc	caaggatata	gaaggcttgc	180
tgggagcggg	agggggggcg	aatctggtcg	ccactcccc	tctgaccagc	caccagcgg	240
cgctacgct	gatgcctgct	gtcaactatg	cccccttggg	tctgccaggc	tcggcggagc	300
cgccaaagca	atgccaccca	tgccctgggg	tgccccaggg	gacgtcccca	gtccccgtgc	360
cttatggtta	ctttggaggc	gggtactact	cctgccgagc	gtcccggagc	tcgctgaaac	420
cctgtgcccc	ggcagccacc	ctggccgcgt	accccgcgga	gactcccacg	gccggggaag	480

agtacccccag	ycgccccact	gagttttgcct	tctatccggg	atatccggga	acctaccagc	540
ctatggccag	ttacctggac	gtgtctgtgg	tgcagactct	gggtgctcct	ggagaaccgc	600
gacatgactc	cctgttgcct	gtggacagtt	accagtcttg	ggctctcgct	ggaggctgga	660
acagccagat	gtgttgccag	ggagaacaga	acccaccagg	tcccttttgg	aaggcagcat	720
ttgcagactc	cagcggggcag	caccctcctg	acgcctgcgc	ctttcgtcgc	ggccgcaaga	780
aacgcattcc	gtacagcaag	gggcagttgc	gggagctgga	gcgggagtat	gcggctaaca	840
agttcatcac	caaggacaag	aggcgcaaga	tctcggcagc	caccagcctc	tcggagcgcc	900
agattaccat	ctggtttcag	aaccgcccgg	tcaaagagaa	gaaggttctc	gccaaaggta	960
agaacagcgc	taccccttaa	gagatctcct	tgcctgggtg	ggaggagcga	aagtgggggt	1020
gtcctgggga	gaccaggaac	ctgccaagcc	caggctgggg	ccaaggactc	tgctgagagg	1080
cccctagaga	caacaccctt	cccaggccac	tggctgctgg	actgttcctc	aggagcggcc	1140
tgggtaccca	gtatgtgcag	ggagacggaa	ccccatgtga	cagccactc	caccaggggt	1200
cccaaagaac	ctggcccagt	cataatcatt	catcctgaca	gtggcaataa	tcacgataac	1260
cagtactagc	tgccatgatc	gttagcctca	tattttctat	ctagagctct	gtagagcact	1320
ttagaaaccg	ctttcatgaa	ttgagctaat	tatgaataaa	tttggaaggc	gatccctttg	1380
cagggaaagt	ttctctcaga	cccccttcca	ttacacctct	caccctggta	acagcaggaa	1440
gactgaggag	aggggaacgg	gcagattcgt	tgtgtggctg	tgatgtccgt	ttagcatttt	1500
tctcagctga	cagctgggta	ggtagacaat	tgtagaggct	gtctcttctc	ccctccttgt	1560
ccaccccata	gggtgtacct	actggtcctg	gaagcaccga	tccttaatac	gatgattttt	1620
ctgtcgtgtg	aaaatgaagc	cagcaggctg	cccctagtca	gtccttctct	ccagagaaaa	1680
agagattttga	gaaagtgcct	gggtaattca	ccattaattt	cctcccccaa	actctctgag	1740
tcttccctta	atatttctgg	tggttctgac	caaagcaggt	catggtttgt	tgagcatttg	1800
ggatcccagt	gaagtagatg	ttttagacct	tgcatactta	gcccttccca	ggcacaacacg	1860
gagtggcaga	gtggtgccaa	ccctgttttc	ccagtccacg	tagacagatt	cacagtgcgg	1920
aattctggaa	gctggagaca	gacgggctct	ttgcagagcc	gggactctga	gagggacatg	1980
agggcctctg	cctctgtgtt	cattctctga	tgtcctgtac	ctgggctcag	tgcccgggtg	2040
gactcatctc	ctggccgcgc	agcaaagcca	gcgggttcgt	gctggctcct	cctgcacctt	2100
aggctggggg	tggggggcct	gccggcgcat	tctccacgat	tgagcgcaca	ggcctgaagt	2160
ctggacaacc	cgcagaaccg	aagctccgag	cagcgggtcg	gtggcgagta	gtggggctcg	2220
tggcgagcag	ttggtgggtg	gccgcggccg	ccactacctc	gaggacattt	ccctcccggga	2280
gccagctctc	ctagaaaccc	cgcggcgccg	gccgcagcca	agtgtttatg	gcccgcgggtc	2340
gggtgggatc	ctagccctgt	ctcctctcct	gggaaggagt	gaggggtggga	cgtgacttag	2400
acacctacaa	atctattttac	caaagaggag	cccgggactg	agggaaaagg	ccaaagagtg	2460
tgagtgcattg	cggactgggg	gttcagggga	agaggacgag	gaggaggaag	atgaggtcga	2520
tttcttgatt	taaaaaatcg	tccaagcccc	gtggtccagc	ttaaggctct	cggttacatg	2580
cgccgctcag	agcaggtcac	tttctgcctt	ccacgtcctc	cttcaaggaa	gccccatgtg	2640
ggtagctttc	aatatcgag	gttcttactc	ctctgcctct	ataagctcaa	accaccaaac	2700
gatcgggcaa	gtaaaccccc	tccctcgccg	acttcggaac	tggcgagagt	tcagcgcaga	2760
tgggcctgtg	gggagggggc	aagatagatg	agggggagcg	gcatgggtgcg	gggtgacccc	2820
ttggagagag	gaaaaaggcc	acaagagggg	ctgccaccgc	cactaacgga	gatggccctg	2880
gtagagacct	ttgggggtct	ggaacctctg	gactccccat	gctctaactc	ccacactctg	2940
ctatcagaaa	cttaaaacttg	aggattttct	ctgtttttca	ctcgcaataa	aytcagagca	3000
aacaaaaaaaa	aaaaaaaaaaa	aaaactcgag				3030

<210> 334

<211> 2417

<212> DNA

<213> Homo sapien

<400> 334

ggcggccgct	ctagagctag	tgggatcccc	cgggctgcac	gaattcggca	cgagtgagtt	60
ggagttttac	ctgtattgtt	ttaatttcaa	caagcctgag	gactagccac	aaatgtaccc	120
agtttacaaa	tgaggaaaca	ggtgcaaaaa	ggttgttacc	tgtcaaagg	cgtatgtggc	180
agagccaaga	tttgagccca	gttatgtctg	atgaacttag	cctatgctct	ttaaacttct	240
gaatgctgac	cattgaggat	atctaaactt	agatcaattg	cattttccct	ccaagactat	300

ttactttatca	atacaataat	accaccttta	ccaatctatt	gttttgatac	gagactcaaa	360
tatgccagat	atatgtaaaa	gcaacctaca	agctctctaa	tcatgctcac	ctaaaagatt	420
cccgggatct	aataggctca	aagaaacttc	ttctagaaat	ataaaagaga	aaattggatt	480
atgcaaaaat	tcattattaa	tttttttcat	ccatccttta	attcagcaaa	catttatctg	540
ttgttgactt	tatgcagtat	ggccttttaa	ggattggggg	acaggtgaag	aacgggggtgc	600
cagaatgcat	cctcctacta	atgaggtcag	tacacatttg	catttttaaaa	tgccctgtcc	660
agctgggcat	ggtggatcat	gcctgtaatc	tcaacatttg	aaggccaagg	caggaggatt	720
gcttcagccc	aggagttcaa	gaccagcctg	ggcaacatag	aaagacccca	tctctcaatc	780
aatcaatcaa	tgccctgtct	ttgaaaataa	aactctttaa	gaaagggtta	atgggagagg	840
tgtggtagct	cattgcctata	atacagcact	ttgggaggct	gaggcaggag	gatcacttta	900
gcccagaagt	tcaagaccag	cctgggcaac	aagtgcaccc	tcattctcaat	tttttaataa	960
aatgaataca	tacataagga	aagataaaaa	gaaaagttta	atgaaagaat	acagtataaa	1020
acaaatctct	tggacctaaa	agtatttttg	ttcaagccaa	atattgtgaa	tcacctctct	1080
gtgttgagga	tacagaatat	ctaagcccag	gaaactgagc	agaaagtcca	tgtactaact	1140
aatcaacccg	aggcaaggca	aaaatgagac	taactaatca	atccgaggca	aggggcaaat	1200
tagacggaac	ctgactctgg	tctattaagc	gacaactttc	cctctgttgt	attttctctt	1260
tattcaatgt	aaaaggataa	aaactctcta	aaactaaaaa	caatgtttgt	caggagttac	1320
aaacctatgac	caactaatta	tggggaatca	taaaatatga	ctgtatgaga	tcttgatggg	1380
ttacaaaagt	taccactgt	taatcacttt	aaacattaat	gaacttaaaa	atgaatttac	1440
ggagattgga	atgtttcttt	cctgttgtat	tagttggctc	aggctgccat	aacaaaatac	1500
cacagactgg	gaggcttaag	taacagaaat	tcatttctca	cagttctggg	ggctggaagt	1560
ccacgatcaa	ggtgcaggaa	aggcaggctt	cattctgagg	cccctctctt	ggctcacatg	1620
tggccaccct	cccactgcgt	gtcacatga	cctctttgtg	ctcctggaaa	gagggtgtgg	1680
gggacagagg	gaaagagaag	gagagggaac	tctctgggtg	ctcgtctttc	aaggacccta	1740
acctggggcca	ctttggccca	ggcactgtgg	ggtggggggg	tgtggctgct	ctgctctgag	1800
tggccaagat	aaagcaacag	aaaaatgtcc	aaagctgtgc	agcaaagaca	agccaccgaa	1860
cagggatctg	ctcatcagt	tggggacctc	caagtgggcc	accctggagg	caagccccc	1920
cagagcccat	gcaagggtggc	agcagcagaa	gaagggaatt	gtccctgtcc	ttggcacatt	1980
cctcaccgac	ctgggtgatgc	tggacactgc	gatgaatggg	aatgtggatg	agaatatgat	2040
ggactcccag	aaaaggagac	ccagctgtct	aggtggctgc	aaatcattac	agccttcac	2100
ctggggagga	actggggggc	tgggtctggg	tcagagagca	gcccagtgag	ggtgagagct	2160
acagcctgtc	ctgccagctg	gatccccagt	cccggccaac	cagtaatcaa	ggctgagcag	2220
atcaggcttc	ccggagctgg	tcttgggaa	ccagccctgg	ggtgagttgg	ctcctgctgt	2280
ggtactgaga	caatattgtc	ataaattcaa	tgcgcccttg	tatccctttt	tcttttttat	2340
ctgtctacat	ctataatcac	tatgcatact	agtctttgtt	agtgtttcta	ttcmacttaa	2400
tagagatatg	ttataact					2417

<210> 335

<211> 2984

<212> DNA

<213> Homo sapien

<400> 335

atccctcctt	ccccactctc	ctttccagaa	ggcacttggg	gtcttatctg	ttggactctg	60
aaaacacttc	aggcgccctt	ccaaggcttc	cccaaaccct	taagcagccg	cagaagcgct	120
cccgagctgc	cttctccac	actcagggtga	tcgagttgga	gaggaagttc	agccatcaga	180
agtacctgtc	ggcccttgaa	cgggcccacc	tggccaagaa	cctcaagctc	acggagacc	240
aagtgaagat	atggttccag	aacagacgct	ataagactaa	gcgaaagcag	ctctcctcgg	300
agctgggaga	cttgaggaga	cactcctctt	tgcggccct	gaaagaggag	gccttctccc	360
gggctccct	ggtctccgtg	tataacagct	atccttacta	cccatacctg	tactgcgtgg	420
gcagctggag	cccagctttt	tggtaatgcc	agctcagggtg	acaaccatta	tgatcaaaaa	480
ctgccttccc	cagggtgtct	ctatgaaaag	cacaaggggc	caaggtcagg	gagcaagagg	540
tgtgcacacc	aaagctattg	gagattttcg	tggaaatctc	asattcttca	ctgggtgagac	600
aatgaaacaa	cagagacagt	gaaagtttta	atacctaagt	cattccccca	gtgcatactg	660
taggtcattt	tttttgcttc	tggctacctg	tttgaagggg	agagaggggaa	aatcaagttg	720

tattttccag	cactttgtat	gattttggat	gagctgtaca	cccaaggatt	ctgttctgca	780
actccatcct	cctgtgtcac	tgaatatcaa	ctctgaaaga	gcaaacctaa	caggagaaag	840
gacaaccagg	atgaggatgt	caccaactga	attaaactta	agtccagaag	cctcctgttg	900
gccttggaat	atggccaagg	ctctctctgt	ccctgtaaaa	gagaggggca	aatagagagt	960
ctccaagaga	acgccctcat	gctcagcaca	tatttgcattg	ggagggggag	atgggtggga	1020
ggagatgaaa	atatcagctt	ttcttattcc	tttttattcc	ttttaaaatg	gtatgccaac	1080
ttaagtattt	acaggggtggc	ccaaatagaa	caagatgcac	tcgctgtgat	tttaagacaa	1140
gctgtataaa	cagaactcca	ctgcaagagg	ggggggccggg	ccaggagaat	ctccgcttgt	1200
ccaagacagg	ggcctaagga	gggtctccac	actgctgcta	ggggctgttg	cattttttta	1260
ttagtagaaa	gtggaaaggc	ctcttctcaa	cttttttccc	ttgggctgga	gaatttagaa	1320
tcagaagttt	cctggagttt	tcaggctatc	atatatactg	tatcctgaaa	ggcaacataa	1380
ttcttccttc	cctcctttta	aaattttgtg	ttcctttttg	cagcaattac	tcactaaagg	1440
gcttcatttt	agtcagatt	tttagtctgg	ctgcacctaa	cttatgcctc	gcttatttag	1500
cccagatctt	gggtcttttt	tttttttttt	tttttcgctc	tccccaagc	tttatctgtc	1560
ttgacttttt	aaaaaagttt	gggggcagat	tctgaattgg	ctaaaagaca	tgcattttta	1620
aaactagcaa	ctcttatttc	tttcctttta	aaatacatag	cattaaatcc	caaactcctat	1680
ttaaagacct	gacagcttga	gaaggctcact	actgcattta	taggaccttc	tggtggttct	1740
gctgttacgt	ttgaagtctg	acaatccttg	agaatctttg	catgcagagg	aggtaagagg	1800
tattggattt	tcacagagga	agaacacagc	gcagaatgaa	gggccaggct	tactgagctg	1860
tccagtggag	ggctcatggg	tgggacatgg	aaaagaaggc	agcctaggcc	ctggggagcc	1920
cagtccactg	agcaagcaag	ggactgagtg	agcctttttg	aggaaaaggc	taagaaaaag	1980
gaaaaaccatt	ctaaaacaca	acaagaaact	gtccaaatgc	tttggaact	gtgtttattg	2040
cctataatgg	gtcccaaaaa	tgggtaacct	agacttcaga	gagaatgagc	agagagcaaa	2100
ggagaaaatct	ggctgtcctt	ccattttcat	tctgttatct	caggtagagct	ggtagagggg	2160
agacattaga	aaaaaatgaa	acaacaaaac	aattactaat	gaggtacgct	gaggcctggg	2220
agtctcttga	ctccactact	taattccgct	tagtgagaaa	cctttcaatt	ttcttttatt	2280
agaagggcca	gcttactgtt	ggtggcaaaa	ttgccaacat	aagttaatag	aaagtgggcc	2340
aatttcaccc	cattttctgt	ggtttgggct	ccacattgca	atgttcaatg	ccacgtgctg	2400
ctgacaccga	ccggagtact	agccagcaca	aaaggcaggg	tagcctgaat	tgctttctgc	2460
tctttacatt	tcttttaaaa	taagcattta	gtgctcagtc	cctactgagt	actctttctc	2520
tccctccttc	tgaatttaat	tctttcaact	tgcaatttgc	aaggattaca	catttcactg	2580
tgatgtatat	tgtgttgcaa	aaaaaaaaaa	aagtgtcttt	gtttaaaatt	acttggtttg	2640
tgaatccatc	ttgctttttc	cccattggaa	ctagtcatta	acccatctct	gaactggtag	2700
aaaaacatct	gaagagctag	tctatcagca	tctgacaggt	gaattggatg	gttctcagaa	2760
ccatttcacc	cagacagcct	gtttctatcc	tgtttaataa	attagtttgg	gttctctaca	2820
tgcataacaa	accctgctcc	aatctgtcac	ataaaagtct	gtgacttgaa	gtttagtcag	2880
cacccccacc	aaactttatt	tttctatgtg	ttttttgcaa	catatgagtg	ttttgaaaat	2940
aaagtaccca	tgtcttttatt	agaaaaaaaa	aaaaaaaaaa	aaaa		2984

<210> 336

<211> 147

<212> PRT

<213> Homo sapien

<400> 336

Pro	Ser	Phe	Pro	Thr	Leu	Leu	Ser	Arg	Arg	His	Leu	Gly	Ser	Tyr	Leu
1			5					10					15		
Leu	Asp	Ser	Glu	Asn	Thr	Ser	Gly	Ala	Leu	Pro	Arg	Leu	Pro	Gln	Thr
			20					25					30		
Pro	Lys	Gln	Pro	Gln	Lys	Arg	Ser	Arg	Ala	Ala	Phe	Ser	His	Thr	Gln
			35					40					45		
Val	Ile	Glu	Leu	Glu	Arg	Lys	Phe	Ser	His	Gln	Lys	Tyr	Leu	Ser	Ala
			50					55				60			
Pro	Glu	Arg	Ala	His	Leu	Ala	Lys	Asn	Leu	Lys	Leu	Thr	Glu	Thr	Gln
65					70					75					80

Val Lys Ile Trp Phe Gln Asn Arg Arg Tyr Lys Thr Lys Arg Lys Gln
 85 90 95
 Leu Ser Ser Glu Leu Gly Asp Leu Glu Lys His Ser Ser Leu Pro Ala
 100 105 110
 Leu Lys Glu Glu Ala Phe Ser Arg Ala Ser Leu Val Ser Val Tyr Asn
 115 120 125
 Ser Tyr Pro Tyr Tyr Pro Tyr Leu Tyr Cys Val Gly Ser Trp Ser Pro
 130 135 140
 Ala Phe Trp
 145

<210> 337

<211> 9

<212> PRT

<213> Homo sapien

<400> 337

Ala Leu Thr Gly Phe Thr Phe Ser Ala
 1 5

<210> 338

<211> 9

<212> PRT

<213> Homo sapien

<400> 338

Leu Leu Ala Asn Asp Leu Met Leu Ile
 1 5

<210> 339

<211> 318

<212> PRT

<213> Homo sapien

<400> 339

Met Val Glu Leu Met Phe Pro Leu Leu Leu Leu Leu Leu Pro Phe Leu
 1 5 10 15
 Leu Tyr Met Ala Ala Pro Gln Ile Arg Lys Met Leu Ser Ser Gly Val
 20 25 30
 Cys Thr Ser Thr Val Gln Leu Pro Gly Lys Val Val Val Val Thr Gly
 35 40 45
 Ala Asn Thr Gly Ile Gly Lys Glu Thr Ala Lys Glu Leu Ala Gln Arg
 50 55 60
 Gly Ala Arg Val Tyr Leu Ala Cys Arg Asp Val Glu Lys Gly Glu Leu
 65 70 75 80
 Val Ala Lys Glu Ile Gln Thr Thr Thr Gly Asn Gln Gln Val Leu Val
 85 90 95
 Arg Lys Leu Asp Leu Ser Asp Thr Lys Ser Ile Arg Ala Phe Ala Lys
 100 105 110
 Gly Phe Leu Ala Glu Glu Lys His Leu His Val Leu Ile Asn Asn Ala
 115 120 125
 Gly Val Met Met Cys Pro Tyr Ser Lys Thr Ala Asp Gly Phe Glu Met
 130 135 140
 His Ile Gly Val Asn His Leu Gly His Phe Leu Leu Thr His Leu Leu

```
<210> 340
<211> 483
<212> DNA
<213> Homo sapien
```

gccgaggtct	gccttcacac	ggaggacacg	agactgcttc	ctcaagggct	cctgcctgcc	60
tggacactgg	tgggaggcgc	tgtttagtgt	gctgttttca	gaggggtctt	tcggaaggac	120
ctcctgctgc	aggctggagt	gtctttattc	ctggcgggag	accgcacatt	ccactgctga	180
ggttggtggg	gcggtttatc	aggcagtgat	aaacataaga	tgtcatttcc	ttgactccgg	240
ccttcaattt	tctctttggc	tgacgacgga	gtccgtgggt	tcccattgta	actgaccttc	300
gctccaaacg	tgacatcact	gatgctcttc	tcgggggtgc	tgatggcccg	cttggtcacg	360
tgctcaatct	cgccattcga	ctcttgctcc	aaactgtatg	aagacacctg	actgcacgtt	420
ttttctgggc	ttccagaatt	taaagtgaaa	ggcagcactc	ctaagctccg	actccgatgc	480
ctg						483

```
<210> 341
<211> 344
<212> DNA
<213> Homo sapien
```

ctgctgctga	gtcacagatt	tcattataaa	tagcctccct	aaggaaaata	cactgaatgc	60
tatttttact	aaccattcta	tttttataga	aatagctgag	agtttctaaa	ccaactctct	120
gctgccttac	aagtattaaa	tattttactt	ctttccataa	agagtgcctc	aaaatatgca	180
attaatttaa	taattttctga	tgatgggttt	atctgcagta	atatgtatat	catctatttag	240
aattttactta	atgaaaaaact	gaagagaaca	aaatttgtaa	ccactagcac	ttaagtactc	300
ctgattctta	acattgtctt	taatgaccac	aagacaacca	acag		344

BNSDOCID: <WO__0004149A2_I_>

<400> 342

acagcaaaaa	agaaactgag	aagcccaaty	tgctttcttg	ttaacatcca	cttatccaac	60
caatgtggaa	acttcttata	cttgggtcca	ttatgaagtt	ggacaattgc	tgctatcaca	120
cctggcaggt	aaaccaatgc	caagagagtg	atggaaacca	ttggcaagac	tttgttgatg	180
accaggattg	gaattttata	aaaatattgt	tgatgggaag	ttgctaaagg	gtgaattact	240
tccctcagaa	gagtgtaaa	aaaagtcaga	gatgctataa	tagcagctat	tttaattggc	300
aagtgccact	gtggaaagag	ttcctgtgtg	tgctgaagtt	ctgaagggca	gtcaaattca	360
tcagcatggg	ctgtttggtg	caaattgcaa	agcacaggct	tttttagcat	gctgggtctt	420
cccgtgtcct	tatgcaaata	atcgtcttct	tctaaatttc	tcctaggctt	cattttccaa	480
agttcttctt	ggtttgtgat	gtcttttctg	ctttccatta	attctataaa	atagtatggc	540
ttcagccacc	cactcttcgc	cttagcttga	ccgtgagttc	cggctgccgc	tg	592

<210> 343

<211> 382

<212> DNA

<213> Homo sapien

<400> 343

ttcttgacct	cctcctcctt	caagctcaaa	caccacctcc	cttattcagg	accggcactt	60
cttaatgttt	gtggctttct	ctccagcctc	tcttaggagg	ggtaatggtg	gagttggcat	120
cttgtaaact	tcctttctcc	tttcttcccc	ttctctgccc	cgcctttccc	atcctgctgt	180
agacttcttg	attgtcagtc	tytgtcacat	ccagtgattg	ctttggtttc	tgttcccttt	240
ctgactgccc	aaggggctca	gaaccccagc	aatcccttcc	tttactacc	ttcttttttg	300
ggggtagttg	gaagggactg	aaattgtggg	gggaaggtag	gaggcacatc	aataaagagg	360
aaaccaccaa	gctgaaaaaa	aa				382

<210> 344

<211> 536

<212> DNA

<213> Homo sapien

<400> 344

ctgggcctga	agctgtaggg	taaatcagag	gcaggcttct	gagtgatgag	agtcctgaga	60
caataggcca	cataaacttg	gctggatgga	acctcacaat	aagggtgtca	cctcttggtt	120
gtttaggggg	atgccaagga	taaggccagc	tcagttatat	gaagagaagc	agaacaaaca	180
agtctttcag	agaaatggat	gcaatcagag	tgggatcccc	gtcacatcaa	ggtcacactc	240
caccttcatt	tgctgaatg	gttgccagg	cagaaaaatc	caccccttac	gagtgcggct	300
tcgaccttat	atcccccgcc	cgcgtccctt	tctccataaa	attcttctta	gtagctatta	360
ccttcttatt	atttgatcta	gaaattgccc	tccttttacc	cctaccatga	gccctacaaa	420
caactaacct	gccactaata	gttatgtcat	ccctcttatt	aatcatcatc	ctagccctaa	480
gtctggccta	tgagtgacta	caaaaaggat	tagactgagc	cgaataacaa	aaaaaa	536

<210> 345

<211> 251

<212> DNA

<213> Homo sapien

<400> 345

accttttgag	gtctctctca	ccacctccac	agccaccgtc	accgtgggat	gtgctggatg	60
tgaatgaagc	ccccatcttt	gtgcctcctg	aaaagagagt	ggaagtgtcc	gaggactttg	120
gcgtggggcca	ggaaatcaca	tcctacactg	cccaggagcc	agacacattt	atggaacaga	180
aaataacata	tcggatttgg	agagacactg	ccaactggct	ggagattaat	ccggacactg	240
gtgccatttc	c					251

<210> 346
 <211> 282
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(282)
 <223> n = A,T,C or G

<400> 346
 cgcgtctctg acactgtgat catgacaggg gttcaaacag aaagtgcctg ggccctcctt 60
 ctaagtcttg ttaccaaaaa aaggaaaaag aaaagatctt ctcagttaca aattctggga 120
 agggagacta tacctggctc ttgccctaag tgagaggtct tccctcccg accaaaaaat 180
 agaaaggctt tctatttcac tggcccaggt agggggaagg agagtaactt tgagtctgtg 240
 ggtctcattt cccaagggtg cttcaatgct catnaaaacc aa 282

<210> 347
 <211> 201
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(201)
 <223> n = A,T,C or G

<400> 347
 acacacataa tattataaaa tgccatctaa ttggaaggag ctttctatca ttgcaagtca 60
 taaatataac ttttaaaana ntactancag cttttaccta ngctcctaaa tgcttgtaaa 120
 tctgagactg actggaccca cccagaccca gggcaaagat acatgttacc atatcatctt 180
 tataaagaat ttttttttgc c 201

<210> 348
 <211> 251
 <212> DNA
 <213> Homo sapien

<400> 348
 ctgttaatca caacatttgt gcatcacttg tgccaagtga gaaaatgttc taaaatcaca 60
 agagagaaca gtgccagaat gaaactgacc ctaagtccca ggtgcccctg ggcaggcaga 120
 aggagacact cccagcatgg aggagggtt atcttttcat cctaggtcag gtctacaatg 180
 ggggaaggtt ttattataga actcccaaca gccacctca ctctgccac ccacccgatg 240
 gccttgcttc c 251

<210> 349
 <211> 251
 <212> DNA
 <213> Homo sapien

<400> 349
 taaaaatcaa gccatttaat tgtatctttg aaggtaaaca atatatggga gctggatcac 60
 aacccttgag gatgccagag ctatgggtcc agaacatggt gtggtattat caacagagtt 120
 cagaaggggtc tgaactctac gtgttaccag agaacataat gcaattcatg cattccactt 180
 agcaattttg taaaatacca gaaacagacc ccaagagtct ttcaagatga ggaaaattca 240

actcctggtt t

251

<210> 350

<211> 908

<212> DNA

<213> Homo sapien

<400> 350

ctggacactt	tgcgagggct	tttgctggct	gctgctgctg	cccgatcatgc	tactcatcgt	60
agcccgcccc	gtgaagctcg	ctgctttccc	tacctcctta	agtgactgcc	aaacgcccac	120
cggctggaat	tgctctggtt	atgatgacag	agaaaaatgat	ctcttcctct	gtgacaccaa	180
cacctgtaaa	tttgatgggg	aatgtttaag	aattggagac	actgtgactt	gcgtctgtca	240
gttcaagtgc	aacaatgact	atgtgcctgt	gtgtggctcc	aatggggaga	gctaccagaa	300
tgagtgttac	ctgcgacagg	ctgcatgcaa	acagcagagt	gagatacttg	tggtgtcaga	360
aggatcatgt	gccacagtcc	atgaaggctc	tggagaaaact	agtcaaaagg	agacatccac	420
ctgtgatatt	tgccagtctg	gtgcagaatg	tgacgaagat	gccgaggatg	tctggtgtgt	480
gtgtaatat	gactgttctc	aaaccaactt	caatccccctc	tgcgcttctg	atgggaaatc	540
ttatgataat	gcatgccaaa	tcaaagaagc	atcgtgtcag	aaacaggaga	aaattgaagt	600
catgtctttg	ggctgatgtc	aagataacac	aactacaact	actaagtctg	aagatgggca	660
ttatgcaaga	acagattatg	cagagaatgc	taacaaatta	gaagaaagtg	ccagagaaca	720
ccacatacct	tgtccggaac	attacaatgg	cttctgcatg	catgggaagt	gtgagcattc	780
tatcaatatg	caggagccat	cttgcagggtg	tgatgctggt	tatactggac	aacactgtga	840
aaaaaaggac	tacagtgttc	tatacgttgt	tcccggctct	gtacgatttc	agtatgtctt	900
aatcgcag						908

<210> 351

<211> 472

<212> DNA

<213> Homo sapien

<400> 351

ccagttat	ttt	gcaagtggta	agagcctatt	taccataaat	aataactaaga	accaaactcaa	60
gtcaaacc	ttt	aatgccattg	ttattgtgaa	ttaggattaa	gtagtaattt	tcaaaattca	120
cattaact	ttt	atataaaat	cagwtttgyg	agtcatttac	cacaagctaa	atgtgtacac	180
tatgataaaa	aca	accatttg	tattcctgtt	tttctaaaca	gtcctaattt	ctaactctgt	240
atatatcctt	cg	acatcaat	gaactttgtt	ttcttttact	ccagtaataa	agtaggcaca	300
gatctgtcca	ca	acaaactt	gccctctcat	gccttgccctc	tcaccatgct	ctgctccagg	360
tcagccccct	ttt	ggcctgt	ttgttttgtc	aaaaacctaa	tctgcttctt	gcttttcttg	420
gtaatatata	ttt	aggggaag	atgttgcttt	gcccacacac	gaagcaaagt	aa	472

<210> 352

<211> 251

<212> DNA

<213> Homo sapien

<400> 352

ctcaaagcta	atctctcggg	aatcaaacca	gaaaagggca	aggatcttag	gcatgggtgga	60
tgtggataag	gccagggtcaa	tggctgcaag	catgcagaga	aagaggtaca	tccggagcgtg	120
caggctgcgt	tccgtcctta	cgatgaagac	cacgatgcag	tttccaaaca	ttgccactac	180
atacatggaa	aggaggggga	agccaaccca	gaaatgggct	ttctctaate	ctgggataacc	240
aataagcaca	a					251

<210> 353

<211> 436

<212> DNA

<213> Homo sapien

<400> 353

tttttttttt	tttttttttt	tttttttaca	caatgcagtc	atatttttat	tgagtatgtg	60
cacattatgg	tattattact	atactgatta	tatttatcat	gtgacttcta	attaraaaaat	120
gtatccaaaa	gcaaaacagc	agatatata	aattaaagag	acagaagata	gacattaaca	180
gataaggcaa	cttatacatt	gacaatccaa	atccaatata	tttaaacatt	tgggaaatga	240
ggggggacaa	tgggaagccar	atcaaatttg	tgtaaaacta	ttcagtatgt	ttcccttgct	300
tcagtgtctg	raaggctctc	ccttcaatgg	ggatgacaaa	ctccaaatgc	cacacaaatg	360
ttaacagaa	actagattca	cactggaacg	ggggtaaaga	agaaattatt	ttctataaaa	420
gggctcctaa	tgtagt					436

<210> 354

<211> 854

<212> DNA

<213> Homo sapien

<400> 354

ccttttctag	ttcaccagtt	ttctgcaagg	atgctgggta	gggagtgtct	gcaggaggag	60
caagtctgaa	accaaata	ggaaacatag	gaaacgagcc	aggcacaggg	ctgggtgggcc	120
atcagggacc	accctttggg	ttgatatttt	gcttaatctg	catcttttga	gtaagatcat	180
ctggcagtag	aagctgttct	ccagggtacat	ttctctagct	catgtacaaa	aacatcctga	240
aggactttgt	caggtgcctt	gctaaaagcc	agatgcgttc	ggcacttcct	tgggtctgagg	300
ttaattgca	acctacaggc	actgggctca	tgctttcaag	tattttgtcc	tcacttttagg	360
gtgagtga	gatccccatt	ataggagcac	ttgggagaga	tcataataaa	gctgactctt	420
gagtacatgc	agtaatgggg	tagatgtgtg	tgggtgtgtct	tcattcctgc	aaggggtgctt	480
gttagggagt	gtttccagga	ggaacaagtc	tgaaaccaat	catgaaataa	atggtaggtg	540
tgaactggaa	aactaattca	aaagagagat	cgtgatata	gtgtgggtga	tacaccttgg	600
caatatggaa	ggctctaatt	tgcccatatt	tgaaataata	attcagcttt	ttgtaataca	660
aaataacaaa	ggattgagaa	tcatgggtgtc	taatgtataa	aagaccagag	aaacataaat	720
atatcaactg	cataaatgta	aaatgcatgt	gacccaagaa	ggccccaag	tggcagacaa	780
cattgtaccc	attttccctt	ccaaaatgtg	agcggcgggc	ctgctgcttt	caaggctgtc	840
acacgggatg	tcag					854

<210> 355

<211> 676

<212> DNA

<213> Homo sapien

<400> 355

gaaattaagt	atgagctaaa	ttccctgtta	aaacctctag	gggtgacaga	tctcttcaac	60
caggtcaaag	ctgatctttc	tggaatgtca	ccaaccaagg	gcctatattt	atcaaaagcc	120
atccacaagt	catacctgga	tgtcagcgaa	gagggcacgg	aggcagcagc	agccactggg	180
gacagcatcg	ctgtaaaaag	cctaccaatg	agagctcagt	tcaaggcgaa	ccacctcttc	240
ctgttcttta	taaggcacac	tcataccaac	acgatcctat	tctgtggcaa	gcttgccctt	300
ccctaatacag	atgggggtga	gtaaggctca	gagttgcaga	tgaggtgcag	agacaatcct	360
gtgactttcc	cacggccaaa	aagctgttca	cacctcacgc	acctctgtgc	ctcagtttgc	420
tcactctgcaa	aatagggtcta	ggatttcttc	caaccatttc	atgagttgtg	aagctaaggc	480
tttggttaatc	atggaaaaag	gtagacttat	gcagaaaagcc	tttctggctt	tcttatctgt	540
gggtgtctcat	ttgagtgtctg	tccagtgcga	tgatcaagtc	aatgagtaaa	attttaaggg	600
attagatttt	cttgacttgt	atgtatctgt	gagatcttga	ataagtgacc	tgacatctct	660
gcttaaaagaa	aaccag					676

<210> 356

<211> 574

<212> DNA

<213> Homo sapien

<400> 356

tttttttttt	tttttcagga	aaacattctc	ttactttatt	tgcattctcag	caaaggttct	60
catgtggcac	ctgactggca	tcaaaccaaa	gttcgtaggc	caacaaagat	gggccactca	120
caagcttccc	atgtgtagat	ctcagtgcct	atgagtatct	gacacctgtt	cctctcttca	180
gtctcttagg	gaggcttaaa	tctgtctcag	gtgtgctaag	agtgccagcc	caaggkggtc	240
aaaagtcac	aaaactgcag	tctttgctgg	gatagtaagc	caagcagtcg	ctggacagca	300
gagttctttt	cttgggcaac	agataaccag	acaggactct	aatcgtgctc	ttattcaaca	360
ttcttctgtc	tctgcctaga	ctggaataaa	aagccaatct	ctctcgtggc	acaggggaagg	420
agatacaagc	tctgtttacat	gtgatagatc	taacaaaggc	atctaccgaa	gtctggtctg	480
gatagacggc	acagggagct	cttaggtcag	cgctgctggg	tggaggacat	tcctgagtcc	540
agctttgcag	cctttgtgca	acagtacttt	ccca			574

<210> 357

<211> 393

<212> DNA

<213> Homo sapien

<400> 357

tttttttttt	tttttttttt	tttttttttt	tacagaatat	aratgcttta	tcactgkact	60
taatatggkg	kcttggtcac	tatacttaaa	aatgcaccac	tcataaatat	ttaattcagc	120
aagccacaac	caaracttga	ttttatcaac	aaaaaccctt	aaatataaac	ggsaaaaaag	180
atagatataa	ttattccagt	ttttttaaaa	cttaaaarat	attccattgc	cgaattaara	240
araarataag	tggttatatg	aaagaagggc	attcaagcac	actaaaraaa	cctgaggkaa	300
gcataatctg	tacaaaatta	aactgtcctt	tttggcattt	taacaaattt	gcaacgktct	360
tttttttctt	tttctgtttt	tttttttttt	tac			393

<210> 358

<211> 630

<212> DNA

<213> Homo sapien

<400> 358

acagggtaaa	caggaggatc	cttgcctctca	cggagcttac	attctagcag	gaggacaata	60
ttaatgttta	taggaaaatg	atgagtttat	gacaaaggaa	gtagatagtg	ttttacaaga	120
gcatagagta	gggaagctaa	tccagcacag	ggaggtcaca	gagacatccc	taaggaagtg	180
gagtttaaac	tgagagaagc	aagtgcctta	actgaaggat	gtgttgaaga	agaagggaga	240
gtagaacaat	ttgggcagag	ggaaccttat	agaccctaag	gtgggaaggt	tcaaagaact	300
gaaagagagc	tagaacagct	ggagccgttc	tccggtgtaa	agaggagtca	aagagataag	360
attaaagatg	tgaagattaa	gatcttggtg	gcattcaggg	attggcactt	ctacaagaaa	420
tactgaagg	gagtaatgtg	acattacttt	tacttcagg	atggccattc	taactccagg	480
gggtagactg	gactaggtaa	gactggaggc	aggtagacct	cttctaaggc	ctgcgatagt	540
gaaagacaaa	aataagtggg	gaaattcagg	ggatagtga	aatcagtagg	acttaatgag	600
caagccagag	gttcctccac	aacaaccagt				630

<210> 359

<211> 620

<212> DNA

<213> Homo sapien

<400> 359

acagcattcc	aaaatataca	tctagagact	aarrgtaaat	gctctatagt	gaagaagtaa	60
taattaaaaa	atgctactaa	tatagaaaat	ttataatcag	aaaaataaat	attcagggag	120

ctcaccagaa	gaataaagtg	ctctgccagt	tattaaagga	ttactgctgg	tgaattaaat	180
atggcattcc	ccaagggaaa	tagagagatt	cttctggatt	atgttcaata	tttatttcac	240
aggattaact	gttttaggaa	cagatataaa	gcttcgccac	ggaagagatg	gacaaagcac	300
aaagacaaca	tgatacctta	ggaagcaaca	ctaccctttc	aggcataaaa	tttggagaaa	360
tgcaacatta	tgcttcatga	ataatatgta	gaaagaaggt	ctgatgaaaa	tgacatcctt	420
aatgtaagat	aactttataa	gaattctggg	tcaataaaaa	ttctttgaag	aaaacatcca	480
aatgtcattg	acttatcaaa	tactatcttg	gcatataacc	tatgaaggca	aaactaaaca	540
aacaaaaagc	tcacaccaa	caaaaccatc	aacttatttt	gtattctata	acatacgaga	600
ctgtaaagat	gtgacagtgt					620

<210> 360

<211> 431

<212> DNA

<213> Homo sapien

<400> 360

aaaaaaaaaa	agccagaaca	acatgtgata	gataatatga	ttggctgcac	acttccagac	60
tgatgaatga	tgaacgtgat	ggactattgt	atggagcaca	tcttcagcaa	gagggggaaa	120
tactcatcat	ttttggccag	cagttgtttg	atcaccaaac	atcatgccag	aatactcagc	180
aaaccttctt	agctcttgag	aagtcaaagt	ccgggggaat	ttattcctgg	caattttaat	240
tggactcctt	atgtgagagc	agcggctacc	cagctggggg	ggtggagcga	acccgtcact	300
agtggacatg	cagtggcaga	gctcctggta	accacctaga	ggaatacaca	ggcacatgtg	360
tgatgccaa	cgtagacact	gtagcactca	aatttgtctt	gtttttgtct	ttcgggtgtg	420
agattcttag	t					431

<210> 361

<211> 351

<212> DNA

<213> Homo sapien

<400> 361

acactgattt	ccgatcaaaa	gaatcatcat	ctttaccttg	acttttcagg	gaattactga	60
actttcttct	cagaagatag	ggcacagcca	ttgccttggc	ctcacttgaa	gggtctgcat	120
ttgggtcctc	tgggtctctg	ccaagtctcc	cagccactcg	agggagaaat	atcgggaggt	180
ttgacttctt	ccggggcttt	cccaggggct	tcaccgtgag	ccctgcggcc	ctcagggctg	240
caatcctgga	ttcaatgtct	gaaacctcgc	tctctgcctg	ctggacttct	gaggccgtca	300
ctgccactct	gtcctccagc	tctgacagct	cctcatctgt	ggtcctgttg	t	351

<210> 362

<211> 463

<212> DNA

<213> Homo sapien

<400> 362

acttcatcag	gccataatgg	gtgcctcccc	tgagaatcca	agcacctttg	gactgcgcga	60
tgtagatgag	ccggctgaag	atcttgcgca	tgcgcggctt	cagggcgaag	ttcttggcgc	120
ccccggtcac	agaaatgacc	agggttgggtg	ttttcagggt	ccagtgtctg	gtcagcagct	180
cgtaaaggat	ttccgcgtcc	gtgtcgcagg	acagacgtat	atacttccct	ttcttcccca	240
gtgtctcaaa	ctgaatatcc	ccaaaggcgt	cggtaggaaa	ttccttgggtg	tgtttcttgt	300
agttccattt	ctcacttttg	ttgatctggg	tgccttccat	gtgctggctc	tgggcatagc	360
cacacttgca	cacattctcc	ctgataagca	cgatgggtgtg	gacaggaagg	aaggatttca	420
ttgagcctgc	ttatggaaac	tggtattgtt	agcttaata	gac		463

<210> 363

<211> 653

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(653)

<223> n = A,T,C or G

<400> 363

```

acccccgagt ncctgnctgg catactngga acgaccaacg acacacccaa gctcggcctc      60
ctcttgngga ttctgggtga catcttcatg aatggcaacc gtgccagwga ggctgtcctc      120
tgggaggcac tacgcaagat gggactgcgt cctgggggtga gacatcctct ccttggagat      180
ctaacgaaac ttctcaccta tgagttgtaa agcagaaata cctgnactac agacgagtgc      240
ccaacagcaa cccccggaa gtatgagttc ctctrgggcc tccgttecta ccatgagasc      300
tagcaagatg naagtgttga gantcattgc agaggttcag aaaagagacc cntcgtgact      360
ggtctgcaca gttcatggag gctgcagatg aggccttggga tgctctggat gctgctgcag      420
ctgaggccga agcccgggt gaagcaagaa cccgcatggg aattggagat gaggctgtgt      480
ntgggccctg gagctgggat gacattgagt ttgagctgct gacctgggat gaggaaggag      540
attttgagga tccttggtcc agaattccat ttaccttctg ggccagatac caccagaatg      600
cccgtccag attccctcag acctttgccg gtcccattat tggctstggt ggt              653

```

<210> 364

<211> 401

<212> DNA

<213> Homo sapien

<400> 364

```

actagaggaa agacgttaaa ccactctact accacttgtg gaactctcaa agggtaaattg      60
acaaagccaa tgaatgactc taaaaacaat atttacattt aatggtttgt agacaataaa      120
aaaacaaggt ggatagatct agaattgtaa cattttaaga aaaccatagc atttgacaga      180
tgagaaagct caattataga tgcaaagtta taactaaact actatagtag taaagaaata      240
catttcacac ccttcatata aattcactat cttggcttga ggcactccat aaaatgtatc      300
acgtgcatag taaatcttta tatttgctat ggcgttgac tagaggactt ggactgcaac      360
aagtggatgc gcggaaaatg aaatcttctt caatagccca g              401

```

<210> 365

<211> 356

<212> DNA

<213> Homo sapien

<400> 365

```

ccagtgtcat atttgggctt aaaatttcaa gaagggcact tcaaattggct ttgcatttgc      60
atgtttcagt gctagagcgt aggaatagac cctggcgctc actgtgagat gttcttcagc      120
taccagagca tcaagtctct gcagcaggct attcttgggt aaagaaatga cttccacaaa      180
ctctccatcc cctggctttg gcttcggcct tgcgttttcg gcatcatctc cgtaaatggt      240
gactgtcacg atgtgtatag tacagtttga caagcctggg tccatacaga ccgctggaga      300
acattcggca atgtcccctt tgtagccagt ttcttcttcg agctcccgga gagcag      356

```

<210> 366

<211> 1851

<212> DNA

<213> Homo sapien

<400> 366

```

tcattcaccat tgccagcagc ggcaccgtta gtcaggtttt ctgggaatcc cacatgagta      60

```

cttccgtgtt	cttcattctt	cttcaatagc	cataaatctt	ctagctctgg	ctggctgttt	120
tcacttcctt	taagcctttg	tgactcttcc	tctgatgtca	gctttaagtc	ttgttctgga	180
ttgctgtttt	cagaagagat	ttttaacatc	tgtttttctt	tgtagtcaga	aagtaactgg	240
caaattacat	gatgatgact	agaaacagca	tactctctgg	ccgtctttcc	agatcttgag	300
aagatacatc	aacattttgc	tcaagtagag	ggctgactat	acttgctgat	ccacaacata	360
cagcaagtat	gagagcagtt	cttccatata	tatccagcgc	atttaaattc	gcttttttct	420
tgattaaaaa	tttcaccact	tgctgttttt	gctcatgtat	accaagtagc	agtgggtgtga	480
ggccatgctt	gttttttgat	tcgatatacag	caccgtataa	gagcagtgct	ttggccatta	540
atztatcttc	attgtagaca	gcatagtgta	gagtgggtatt	tccataactca	tctggaatat	600
ttggatcagt	gccatgttcc	agcaacatta	acgcacattc	atcttctctg	cattgtacgg	660
cctttgtcag	agctgtcttc	tttttgttgt	caaggacatt	aagttgacat	cgtctgtcca	720
gcacgagttt	tactacttct	gaattcccat	tggcagaggc	cagatgtaga	gcagtcctct	780
tttgcttgct	cctcttgctc	acatccgtgt	ccctgagcat	gacgatgaga	tcctttctgg	840
ggactttacc	ccaccaggca	gctctgtgga	gcttgtccag	atcttctcca	tggaagtggt	900
acctgggata	catgaaggcg	ctgtcatcgt	agtctcccca	agcgaccacg	ttgctcttgc	960
cgctcccctg	cagcagggga	agcagtggca	gcaccacttg	cacctcttgc	tcccaagcgt	1020
cttcacagag	gagtcgttgt	ggctctccaga	agtgtccacg	ttgctcttgc	cgctcccctt	1080
gtccatccag	ggaggaagaa	atgcaggaaa	tgaaagatgc	atgcacgatg	gtataactct	1140
cagccatcaa	acttctggac	agcaggtcac	ttccagcaag	gtggagaaaag	ctgtccaccc	1200
acagaggatg	agatccagaa	accacaatat	ccattcacaa	acaaacactt	ttcagccaga	1260
cacaggttat	gaaatcatgt	catctgcggc	aacatgggtg	aacctaccca	atcacacatc	1320
aagagatgaa	gacactgcag	tatatctgca	caacgtaata	ctcttcatcc	ataac'aaaat	1380
aatataattt	tcctctggag	ccatatggat	gaactatgaa	ggaagaactc	cccgaagaag	1440
ccagtcgcag	agaagccaca	ctgaagctct	gtcctcagcc	atcagcgcca	cggacaggar	1500
tgtgtttctt	ccccagtgat	gcagcctcaa	gttatcccga	agctgcgcga	gcacacggtg	1560
gctcctgaga	aacaccccag	ctcttccggg	ctaacacagg	caagtcaata	aatgtgataa	1620
tcacataaac	agaattaaaa	gcaaagtcac	ataagcatct	caacagacac	agaaaaggca	1680
tttgacaaaa	tccagcatcc	ttgtatttat	tggtgcagtt	ctcagaggaa	atgcttctaa	1740
cttttcccca	tttagtatta	tggtggctgt	gggcttgta	taggtgggtt	ttattacttt	1800
aaggatatgtc	ccttctatgc	ctgttttgct	gaggggttta	attctcgtgc	c	1851

<210> 367

<211> 668

<212> DNA

<213> Homo sapien

<400> 367

cttgagcttc	caaataaygga	agactggccc	ttacacasgt	caatgttaaa	atgaatgcat	60
ttcagtattt	tgaagataaa	attttagat	ctataccttg	ttttttgatt	cgatatcagc	120
acertataag	agcagtgttt	tggccattaa	tttatctttc	attttagaca	gcrtagtgya	180
gagtgggtatt	tccataactca	tctggaatat	ttggatcagt	gccatgttcc	agcaacatta	240
acgcacattc	atcttctctg	cattgtacgg	cctgtcagta	ttagacccaa	aaacaaatta	300
catatcttag	gaattcaaaa	taacattcca	cagctttcac	caactagtta	tatttaaagg	360
agaaaaactca	tttttatgcc	atgtattgaa	atcaaaccac	cctcatgctg	atatagttgg	420
ctactgcata	cctttatcag	agctgtcttc	tttttgttgt	caaggacatt	aagttgacat	480
cgtctgtcca	gcaggagttt	tactacttct	gaattcccat	tggcagaggc	cagatgtaga	540
gcagtcctat	gagagtgtga	agacttttta	ggaaattgta	gtgcactagc	tacagccata	600
gcaatgattc	atgtaaactgc	aaacactgaa	tagcctgcta	ttactctgcc	ttcaaaaaaa	660
aaaaaaaa						668

<210> 368

<211> 1512

<212> DNA

<213> Homo sapien

<400> 368

gggtcgccca	ggggsgcgt	gggctttcct	cgggtgggtg	tgggttttcc	ctgggtgggg	60
tgggctgggc	trgaatcccc	tgctgggggtt	ggcagggtttt	ggctggggatt	gacttttytc	120
ttcaaacaga	ttggaaaccc	ggagttacct	gctagttgggt	gaaactgggt	ggtagacgcg	180
atctgttggc	tactactggc	ttctcctggc	tggtaaaagc	agatgggtgg	tgaggttgat	240
tccatgccgg	ctgctttctt	tgtgaagaag	ccatttggtc	tcaggagcaa	gatgggcaag	300
tggtgctgcc	gttgctttcc	ctgctgcagg	gagagcggca	agagcaacgt	gggcacttct	360
ggagaccacg	acgactctgc	tatgaagaca	ctcaggagca	agatgggcaa	gtggtgccgc	420
cactgcttcc	cctgctgcag	ggggagtggc	aagagcaacg	tgggcgcttc	tggagaccac	480
gacgaytctg	ctatgaagac	actcaggaac	aagatgggca	agtgggtgctg	ccactgcttc	540
ccctgctgca	gggggagcrg	caagagcaag	gtgggcgctt	ggggagacta	cgatgacagt	600
gccttcatgg	agcccaggta	ccacgtccgt	ggagaagatc	tggacaagct	ccacagagct	660
gcctggtggg	gtaaagtccc	cagaaaggat	ctcatcgtca	tgctcaggga	cactgacgtg	720
aacaagaagg	acaagcaaaa	gaggactgct	ctacatctgg	cctctgccaa	tgggaattca	780
gaagtagtaa	aactcstgct	ggacagacga	tgtcaactta	atgtccttga	caacaaaaag	840
aggacagctc	tgayaaaggc	cgtacaatgc	caggaagatg	aatgtgcgtt	aatggtgctg	900
gaacatggca	ctgatccaaa	tattccagat	gagtatggaa	ataccactct	rcactaygct	960
rtctayaatg	aagataaatt	aatggccaaa	gcactgctct	tatayggtgc	tgatatcgaa	1020
tcaaaaaaca	aggtatagat	ctactaattt	tatcttcaaa	atactgaaat	gcattcattt	1080
taacattgac	gtgtgtaagg	gccagtcttc	cgtatttgga	agctcaagca	taacttgaat	1140
gaaaaatatt	tgaaatgacc	taattatctm	agactttatt	ttaaataattg	ttattttcaa	1200
agaagcatta	gagggtacag	tttttttttt	ttaaattgcac	ttctggtaaa	tacttttggt	1260
gaaaacactg	aatttgtaaa	aggtaatact	tactattttt	caattttttc	ctcctaggat	1320
ttttttcccc	taatgaatgt	aagatggcaa	aatttgccct	gaaataggtt	ttacatgaaa	1380
actccaagaa	aagttaaaca	tgtttcagt	aatagagatc	ctgctccttt	ggcaagttcc	1440
taaaaaacag	taatagatac	gaggtgatgc	gcctgtcagt	ggcaagggtt	aagatatttc	1500
tgatctcgtg	cc					1512

<210> 369

<211> 1853

<212> DNA

<213> Homo sapien

<400> 369

gggtcgccca	ggggsgcgt	gggctttcct	cgggtgggtg	tgggttttcc	ctgggtgggg	60
tgggctgggc	trgaatcccc	tgctgggggtt	ggcagggtttt	ggctggggatt	gacttttytc	120
ttcaaacaga	ttggaaaccc	ggagttacct	gctagttgggt	gaaactgggt	ggtagacgcg	180
atctgttggc	tactactggc	ttctcctggc	tggtaaaagc	agatgggtgg	tgaggttgat	240
tccatgccgg	ctgctttctt	tgtgaagaag	ccatttggtc	tcaggagcaa	gatgggcaag	300
tggtgctgcc	gttgctttcc	ctgctgcagg	gagagcggca	agagcaacgt	gggcacttct	360
ggagaccacg	acgactctgc	tatgaagaca	ctcaggagca	agatgggcaa	gtggtgccgc	420
cactgcttcc	cctgctgcag	ggggagtggc	aagagcaacg	tgggcgcttc	tggagaccac	480
gacgaytctg	ctatgaagac	actcaggaac	aagatgggca	agtgggtgctg	ccactgcttc	540
ccctgctgca	gggggagcrg	caagagcaag	gtgggcgctt	ggggagacta	cgatgacagy	600
gccttcatgg	akcccaggta	ccacgtccrt	ggagaagatc	tggacaagct	ccacagagct	660
gcctggtggg	gtaaagtccc	cagaaaggat	ctcatcgtca	tgctcaggga	cackgaygtg	720
aacaagargg	acaagcaaaa	gaggactgct	ctacatctgg	cctctgccaa	tgggaattca	780
gaagtagtaa	aactcstgct	ggacagacga	tgtcaactta	atgtccttga	caacaaaaag	840
aggacagctc	tgayaaaggc	cgtacaatgc	caggaagatg	aatgtgcgtt	aatggtgctg	900
gaacatggca	ctgatccaaa	tattccagat	gagtatggaa	ataccactct	rcactaygct	960
rtctayaatg	aagataaatt	aatggccaaa	gcactgctct	tatayggtgc	tgatatcgaa	1020
tcaaaaaaca	agcatggcct	cacaccactg	ytacttggtt	tacatgagca	aaaacagcaa	1080
gtsgtgaaat	ttttaatyaa	gaaaaaagcg	aattttaaatt	gcrctggata	gatatggaag	1140
ractgctctc	atacttgctg	tatgttggtg	atcagcaagt	atagtcagcc	ytctacttga	1200
gcaaaaatrtt	gatgtatctt	ctcaagatct	ggaaagacgg	ccagagagta	tgctgtttct	1260

agtcacatc	atgtaatttg	ccagttactt	tctgactaca	aagaaaaaca	gatgttaaaa	1320
atctcttctg	aaaacagcaa	tccagaacaa	gacttaaagc	tgacatcaga	ggaagagtca	1380
caaaggctta	aaggaagtga	aaacagccag	ccagaggcat	ggaaactttt	aaatttaaac	1440
ttttggttta	atgttttttt	tttttgctt	aataatatta	gatagtccca	aatgaaatwa	1500
cctatgagac	taggctttga	gaatcaatag	attctttttt	taagaatctt	ttggctagga	1560
gcggtgtctc	acgcctgtaa	ttccagcacc	ttgagaggct	gaggtgggca	gacacagaga	1620
tcaggagatc	gagaccatcc	tggctaaccac	ggtgaaaccc	catctctact	aaaaatacaa	1680
aaacttagct	gggtgtggtg	gcgggtgcct	gtagtccag	ctactcagga	rgctgaggca	1740
ggagaatggc	atgaaccggg	gaggtggagg	ttgcagttag	ccgagatccg	ccactacact	1800
ccagcctggg	tgacagagca	agactctgtc	tcaaaaaaaa	aaaaaaaaaa	aaa	1853

<210> 370

<211> 2184

<212> DNA

<213> Homo sapien

<400> 370

ggcacgagaa	ttaaaaccct	cagcaaaaaca	ggcatagaag	ggacatacct	ttaaagtaata	60
aaaaccacct	atgacaagcc	cacagccaac	ataatactaa	atggggaaaa	gttagaagca	120
tttctctga	gaactgcaac	aataaataca	aggatgctgg	attttgtcaa	atgccttttc	180
tgtgtctgtt	gagatgctta	tgtgactttg	cttttaattc	tgtttatgtg	attatcacat	240
ttattgactt	gcctgtgtta	gaccggaaga	gctgggggtg	ttctcaggag	ccaccgtgtg	300
ctgcggcagc	ttcgggataa	cttgaggctg	catcactggg	gaagaaacac	aytcctgtcc	360
gtggcgctga	tggctgagga	cagagcttca	gtgtggcttc	tctgugactg	gcttcttcgg	420
ggagtctctc	cttcatagtt	catccatag	gctccagagg	aaaattatat	tattttgtta	480
tggatgaaga	gtattacgtt	gtgcagatat	actgcagtgt	cttcatctct	tgatgtgtga	540
ttgggttaggt	tccaccatgt	tgccgcagat	gacatgattt	cagtacctgt	gtctggctga	600
aaagtgtttg	tttgtgaatg	gatatttgtg	tttctggatc	tcatectctg	tgggtggaca	660
gctttctcca	ccttgctgga	agtgcctgc	tgtccagaag	tttgatggct	gaggagtata	720
ccatcgtgca	tgcatctttc	atttctctga	tttcttcttc	cctggatgga	cagggggagc	780
ggcaagagca	acgtgggcac	ttctggagac	cacaacgact	cctctgtgaa	gacgcttggg	840
agcaagaggt	gcaagtgggtg	ctgccactgc	ttcccctgct	gcaggggagc	ggcaagagca	900
acgtggctgc	ttggggagac	tacgatgaca	gcgccttcat	ggatcccagg	taccacgtcc	960
atggagaaga	tctggacaag	ctccacagag	ctgcctgggtg	gggtaaagtc	cccagaaagg	1020
atctcatcgt	catgctcagg	gacacggatg	tgaacaagag	ggacaagcaa	aagaggactg	1080
ctctacatct	ggcctctgcc	aatgggaatt	cagaagtagt	aaaactcgtg	ctggacagac	1140
gatgtcaact	taatgtcctt	gacaacaaaa	agaggacagc	tctgacaaag	gccgtacaat	1200
gccaggaaga	tgaatgtgctg	ttaatgttgc	tggaaacatg	cactgatcca	aatattccag	1260
atgagtatgg	aaataccact	ctacactatg	ctgtctacaa	tgaagataaa	ttaatggcca	1320
aagcactgct	cttatacgg	gctgatatcg	aatcaaaaaa	caagcatggc	ctcacaccac	1380
tgtactttgg	tatacatgag	caaaaacagc	aagtggtgaa	atttttaatc	aagaaaaaag	1440
cgaatttaaa	tgcgctggat	agatatggaa	gaactgctct	catacttgct	gtatgttgtg	1500
gatcagcaag	tatagtcagc	cctctacttg	agcaaaatgt	tgatgtatct	tctcaagatc	1560
tggaaagacg	gccagagagt	atgctgtttc	tagtcatcat	catgtaat	gccagttact	1620
ttctgactac	aaagaaaaac	agatgttaaa	aatctcttct	gaaaaacagca	atccagaaca	1680
agacttaaa	ctgacatcag	aggaagagtc	acaaaggctt	aaagggaagt	aaaacagcca	1740
gccagaggca	tggaaacttt	taaatttaaa	cttttggttt	aatgtttttt	ttttttgcct	1800
ttaataatatt	agatagtccc	aaatgaaatw	acctatgaga	ctaggctttg	agaatcaata	1860
gattcttttt	ttaagaatct	tttggttagg	agcgggtgtc	cacgcctgta	attccagcac	1920
cttgagaggc	tgagggtggg	agatcacgag	atcaggagat	cgagaccatc	ctggctaaca	1980
cggtgaaacc	ccatctctac	taaaaataca	aaaacttagc	tgggtgtggg	ggcgggtgcc	2040
tgtagtccca	gctactcagg	argctgaggc	aggagaatgg	catgaaccgg	ggaggtggag	2100
gttgacgtga	gccgagatcc	gccactacac	tccagcctgg	gtgacagagc	aagactctgt	2160
ctcaaaaaaa	aaaaaaaaaa	aaaa				2184

<210> 371
 <211> 1855
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(1855)
 <223> n = A,T,C or G

<400> 371

tgcacgcac	ggccagtgtc	tgtgccacgt	acactgacgc	cccctgagat	gtgcacgccg	60
cacgcgcac	ttgcacgcgc	ggcagcggct	tggctggctt	gtaacggctt	gcacgcgcac	120
gccgccccg	cataaccgtc	agactggcct	gtaacggctt	gcaggcgcac	gccgcacgcg	180
cgtaacggct	tggctgccct	gtaacggctt	gcacgtgcat	gctgcacgcg	cgtaacggc	240
ttggctggga	tgtagccgct	tggcttggct	ttgcattytt	tgctkggctk	ggcgttgkty	300
tcttggattg	acgcttcctc	cttggatkgc	cgtttcctcc	ttggatkgac	gtttcytyty	360
tcgcgttcct	ttgctggact	tgacctttty	tctgctgggt	ttggcattcc	tttgggggtg	420
gctgggtgtt	ttctccgggg	gggkktgccc	ttcctggggg	gggcgtgggk	cgccccagg	480
gggcgtgggc	tttccccggg	tgggtgtggg	tttccctggg	gtgggggtgg	ctgtgctggg	540
atccccctgc	tgggggttggc	agggattgac	tttttcttc	aaacagattg	gaaacccgga	600
gtaacntgct	agtttgtgaa	actggttggg	agacgcgac	tgctggtact	actgtttctc	660
ctggctgtta	aaagcagatg	gtggctgagg	ttgattcaat	gccggctgct	tcttctgtga	720
agaagccatt	tgggtctcagg	agcaagatgg	gcaagtgggt	cgccactgct	ttccctgctg	780
cagggggagc	ggcaagagca	acgtgggcac	ttctggagac	cacaacgact	cctctgtgaa	840
gacgcttggg	agcaagaggt	gcaagtgggt	ctgcccactg	cttccccctgc	tgcaggggag	900
cggcaagagc	aacgtggkcg	cttggggaga	ctacgatgac	agcgccctca	tggakcccag	960
gtaccacgtc	crtggagaag	atctggacaa	gctccacaga	gctgcctggg	ggggtaaagt	1020
ccccagaaag	gatctcatcg	tcatgctcag	ggacactgay	gtgaacaaga	rggacaagca	1080
aaagaggact	gctctacatc	tggcctctgc	caatgggaat	tcagaagtag	taaaactcgt	1140
gctggacaga	cgatgtcaac	ttaatgtcct	tgacaacaaa	aagaggacag	ctctgacaaa	1200
ggccgtacaa	tgccaggaag	atgaatgtgc	gttaatgttg	ctggaacatg	gcaactgatcc	1260
aaatattcca	gatgagtatg	gaaataccac	tctacactat	gctgtctaca	atgaagataa	1320
attaatggcc	aaagcactgc	tcttatacgg	tgtgatatac	gaatcaaaaa	acaaggtata	1380
gatctactaa	ttttatcttc	aaaatactga	aatgcattca	ttttaacatt	gacgtgtgta	1440
agggccagtc	ttccgtatct	ggaagctcaa	gcataacttg	aatgaaaata	ttttgaaagt	1500
acctaattat	ctaagacttt	attttaaata	ttgttatctt	caaagaagca	ttaggggta	1560
cagttttttt	tttttaaata	cacttctggg	aaatactttt	gttgaaaaca	ctgaattttg	1620
aaaaggtaat	acttactatt	tttcaatttt	tccctcctag	gatttttttc	ccctaattgaa	1680
tgtaagatgg	caaaatttgc	cctgaaatag	gtttttacatg	aaaactccaa	gaaaagttaa	1740
acatgtttca	gtgaatagag	atcctgctcc	tttggcaagt	tcctaaaaaa	cagtaataga	1800
tacgaggtga	tgcgcctgtc	agtggcaagg	tttaagatat	ttctgatctc	gtgcc	1855

<210> 372
 <211> 1059
 <212> DNA
 <213> Homo sapien

<400> 372

gcaacgtggg	cacttctgga	gaccacaacg	actcctctgt	gaagacgctt	gggagcaaga	60
ggtgcaagtg	gtgctgcccc	ctgcttcccc	tgctgcaggg	gagcggcaag	agcaacgtgg	120
gcgcttgrgg	agactmcgat	gacagygcct	tcatggagcc	caggtaccac	gtccgtggag	180
aagatctgga	caagctccac	agagctgccc	tgggtggggta	aagtccccag	aaaggatctc	240
atcgtcatgc	tcagggacac	tgaygtgaac	aagarggaca	agcaaaagag	gactgctcta	300
catctggcct	ctgccaatgg	gaattcagaa	gtagtataaac	tcstgctgga	cagacgatgt	360

caacttaatg	tccttgacaa	caaaaagagg	acagctctga	yaaaggccgt	acaatgccag	420
gaagatgaat	gtgctgtaat	gttgctggaa	catggcactg	atccaaatat	tccagatgag	480
tatggaaata	ccactctrca	ctaygctrct	tayaatgaag	ataaattaat	ggccaaagca	540
ctgctcttat	ayggtgctga	tatcgaatca	aaaaacaagg	tatagatcta	ctaattttat	600
cttcaaaata	ctgaaatgca	ttcattttta	cattgacgtg	tgtaaagggcc	agtcctccgt	660
at ttggaagc	tcaagcataa	cttgaatgaa	aatattttga	aatgacctaa	ttatctaaga	720
ctttatttta	aatattgtta	ttttcaaaga	agcattagag	ggtacagtgt	ttttttttta	780
aatgcacttc	tggtaaatac	ttttgttgaa	aacactgaat	ttgtaaaagg	taatacttac	840
tatttttcaa	ttttccctc	ctaggatttt	tttcccctaa	tgaatgtaag	atggcaaaat	900
ttgccctgaa	ataggtttta	catgaaaact	ccaagaaaag	ttaaacaatgt	ttcagtgaat	960
agagatcctg	ctcctttggc	aagttcctaa	aaaacagtaa	tagatacgag	gtgatgcgcc	1020
tgtcagtggc	aaggtttaag	atattttctga	tctcgtgcc			1059

<210> 373

<211> 1155

<212> DNA

<213> Homo sapien

<400> 373

atggtggttg	aggttgattc	catgccggct	gcctcttctg	tgaagaagcc	at ttggtctc	60
aggagcaaga	tgggcaagtg	gtgctgccgt	tgttccccct	gctgcaggga	gagcggcaag	120
agcaacgtgg	gcacttcttg	agaccacgac	gactctgcta	tgaagacact	caggagcaag	180
atgggcaagt	ggtgccgcca	ctgcttcccc	tgtgcagggg	ggagtggcaa	gagcaacgtg	240
ggcgcttctg	gagaccacga	cgactctgct	atgaagacac	tcaggaacaa	gatgggcaag	300
tgggtgctgcc	actgcttccc	ctgctgcagg	gggagcggca	agagcaagggt	gggcgcttgg	360
ggagactacg	atgacagtgc	cttcatggag	cccagggtacc	acgtccgtgg	agaagatctg	420
gacaagctcc	acagagctgc	ctggtgggggt	aaagtccccca	gaaaggatct	catcgtcatg	480
ctcagggaca	ctgacgtgaa	caagaaggac	aagcaaaaaga	ggactgctct	acatctggcc	540
tctgccaatg	ggaattcaga	agtagtaaaa	ctcctgctgg	acagacgatg	tcaacttaat	600
gtccttgaca	acaaaaagag	gacagctctg	ataaaggccg	tacaatgcca	ggaagatgaa	660
tgtgctgtaa	tgttgctgga	acatggcact	gatccaaata	ttccagatga	gtatggaaat	720
accactctgc	actacgctat	ctataatgaa	gataaattaa	tggccaaagc	actgctctta	780
tatggtgctg	atatacgaatc	aaaaaacaag	catggcctca	caccactgtt	acttgggtga	840
catgagcaaa	aacagcaagt	cgtgaaattt	ttaatcaaga	aaaaagcgaa	tttaaatgca	900
ctggatagat	atggaaggac	tgtctcata	cttgcctgat	gttgtggatc	agcaagtata	960
gtcagccttc	tacttgagca	aaatattgat	gtatcttctc	aagatctatc	tggacagacg	1020
gccagagagt	atgctgtttc	tagtcatcat	catgtaattt	gccagttact	ttctgactac	1080
aaagaaaaac	agatgctaaa	aatctcttct	gaaaacagca	atccagaaaa	tgtctcaaga	1140
accagaaata	aataa					1155

<210> 374

<211> 2000

<212> DNA

<213> Homo sapien

<400> 374

atggtggttg	aggttgattc	catgccggct	gcctcttctg	tgaagaagcc	at ttggtctc	60
aggagcaaga	tgggcaagtg	gtgctgccgt	tgttccccct	gctgcaggga	gagcggcaag	120
agcaacgtgg	gcacttcttg	agaccacgac	gactctgcta	tgaagacact	caggagcaag	180
atgggcaagt	ggtgccgcca	ctgcttcccc	tgtgcagggg	ggagtggcaa	gagcaacgtg	240
ggcgcttctg	gagaccacga	cgactctgct	atgaagacac	tcaggaacaa	gatgggcaag	300
tgggtgctgcc	actgcttccc	ctgctgcagg	gggagcggca	agagcaagggt	gggcgcttgg	360
ggagactacg	atgacagtgc	cttcatggag	cccagggtacc	acgtccgtgg	agaagatctg	420
gacaagctcc	acagagctgc	ctggtgggggt	aaagtccccca	gaaaggatct	catcgtcatg	480
ctcagggaca	ctgacgtgaa	caagaaggac	aaacaaaaga	ggactgctct	acatctggcc	540

tctgccaatg	ggaattcaga	agtagtaaaa	ctcctgctgg	acagacgatg	tcaacttaat	600
gtccttgaca	acaaaaagag	gacagctctg	ataaaggccg	tacaatgcc	ggaagatgaa	660
tgtgcgtaa	tggtgctgga	acatggcact	gatccaaata	ttccagatga	gtatggaaat	720
accactctgc	actacgctat	ctataatgaa	gataaattaa	tggccaaagc	actgctctta	780
tatggtgctg	atatcgaatc	aaaaaacaag	catggcctca	caccactggt	acttggtgta	840
catgagcaaa	aacagcaagt	cgtgaaatct	ttaatcaaga	aaaaagcgaa	tttaaatgca	900
ctggatagat	atggaaggac	tgctctcata	cttgctgtat	gttggtggatc	agcaagtata	960
gtcagccttc	tacttgagca	aaatattgat	gtatcttctc	aagatctatc	tggacagacg	1020
gccagagagt	atgctgtttc	tagtcatcat	catgtaattt	gccagttact	ttctgactac	1080
aaagaaaaac	agatgctaaa	aatctcttct	gaaaacagca	atccagaaca	agacttaaag	1140
ctgacatcag	aggaagagtc	acaaagggtc	aaaggcagtg	aaaatagcca	gccagagaaa	1200
atgtctcaag	aaccagaaat	aaataaggat	ggtgatagag	agggtgaaga	agaaatgaag	1260
aagcatgaaa	gtaataatgt	gggattacta	gaaaacctga	ctaattggtgt	cactgctggc	1320
aatggtgata	atggattaat	tcctcaaagg	aagagcagaa	cacctgaaaa	tcagcaattt	1380
cctgacaacg	aaagtgaaga	gtatcacaga	atttgcgat	tagtttctga	ctacaaagaa	1440
aaacagatgc	caaaatactc	ttctgaaaac	agcaaccag	aacaagactt	aaagctgaca	1500
tcagaggaag	agtcacaaag	gcttgagggc	agtgaatatg	gccagccaga	gctagaaaat	1560
tttatggcta	tcgaagaaat	gaagaagcac	ggaagtactc	atgtcggatt	cccagaaaac	1620
ctgactaatg	gtgccactgc	tggaatggt	gatgatggat	taattcctcc	aaggaagagc	1680
agaacacctg	aaagccagca	atttcctgac	actgagaatg	aagagtatca	cagtgcagaa	1740
caaatgata	ctcagaagca	atcttgatga	gaacagaaca	ctggaatatt	acacgatgag	1800
attctgattc	atgaagaaaa	gcagatagaa	gtggttgaaa	aatgaattc	tgagctttct	1860
cttagttgta	agaaagaaaa	agacatcttg	catgaaaata	gtacgttgcg	ggaagaaatt	1920
gccatgctaa	gactggagct	agacacaatg	aaacatcaga	gccagctaaa	aaaaaataaa	1980
aaaaaaaaaa	aaaaaaaaaa					2000

<210> 375

<211> 2040

<212> DNA

<213> Homo sapien

<400> 375

atggtggttg	agggtgattc	catgccgggt	gcctcttctg	tgaagaagcc	atttggtctc	60
aggagcaaga	tgggcaagtg	gtgctgccgt	tgcttcccct	gctgcaggga	gagcggcaag	120
agcaacgtgg	gcacttcttg	agaccacgac	gactctgcta	tgaagacact	caggagcaag	180
atgggcaagt	ggtgccgcca	ctgcttcccc	tgctgcaggg	ggagtggcaa	gagcaacgtg	240
ggcgcttctg	gagaccacga	cgactctgct	atgaagacac	tcaggaacaa	gatgggcaag	300
tggtgctgcc	actgcttccc	ctgctgcagg	gggagcggca	agagcaaggt	gggcgcttgg	360
ggagactacg	atgacagtgc	cttcatggag	cccaggtagc	acgtccgtgg	agaagatctg	420
gacaagctcc	acagagctgc	ctgggtgggt	aaagtcccca	gaaaggatct	catcgtcatg	480
ctcagggaca	ctgacgtgaa	caagaaggac	aagcaaaaaga	ggactgctct	acatctggcc	540
tctgccaatg	ggaattcaga	agtagtaaaa	ctcctgctgg	acagacgatg	tcaacttaat	600
gtccttgaca	acaaaaagag	gacagctctg	ataaaggccg	tacaatgcc	ggaagatgaa	660
tgtgcgtaa	tggtgctgga	acatggcact	gatccaaata	ttccagatga	gtatggaaat	720
accactctgc	actacgctat	ctataatgaa	gataaattaa	tggccaaagc	actgctctta	780
tatggtgctg	atatcgaatc	aaaaaacaag	catggcctca	caccactggt	acttggtgta	840
catgagcaaa	aacagcaagt	cgtgaaatct	ttaatcaaga	aaaaagcgaa	tttaaatgca	900
ctggatagat	atggaaggac	tgctctcata	cttgctgtat	gttggtggatc	agcaagtata	960
gtcagccttc	tacttgagca	aaatattgat	gtatcttctc	aagatctatc	tggacagacg	1020
gccagagagt	atgctgtttc	tagtcatcat	catgtaattt	gccagttact	ttctgactac	1080
aaagaaaaac	agatgctaaa	aatctcttct	gaaaacagca	atccagaaca	agacttaaag	1140
ctgacatcag	aggaagagtc	acaaagggtc	aaaggcagtg	aaaatagcca	gccagagaaa	1200
atgtctcaag	aaccagaaat	aaataaggat	ggtgatagag	agggtgaaga	agaaatgaag	1260
aagcatgaaa	gtaataatgt	gggattacta	gaaaacctga	ctaattggtgt	cactgctggc	1320
aatggtgata	atggattaat	tcctcaaagg	aagagcagaa	cacctgaaaa	tcagcaattt	1380

```

cctgacaacg aaagtgaaga gtatcacaga atttgccaat tagtttctga ctacaaagaa 1440
aaacagatgc caaaatactc ttctgaaaac agcaacccag aacaagactt aaagctgaca 1500
tcagaggaag agtcacaaag gcttgagggc agtgaaaatg gccagccaga gaaaagatct 1560
caagaaccag aaataaataa ggatgggtgat agagagctag aaaattttat ggctatcgaa 1620
gaaatgaaga agcacggaag tactcatgtc ggattcccag aaaacctgac taatgggtgcc 1680
actgctggca atgggtgatga tggattaatt cctccaagga agagcagaac acctgaaagc 1740
cagcaatttc ctgacactga gaatgaagag tatcacagt acgaacaaaa tgatactcag 1800
aagcaatttt gtgaagaaca gaacactgga atattacacg atgagattct gattcatgaa 1860
gaaaagcaga tagaagtggg tgaaaaaaatg aattctgagc tttctcttag ttgtaagaaa 1920
gaaaaagaca tcttgcataa aaatagtagc ttgcgggaag aaattgccat gctaagactg 1980
gagctagaca caatgaaaca tcagagccag ctaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2040

```

<210> 376

<211> 329

<212> PRT

<213> Homo sapien

<400> 376

```

Met Asp Ile Val Val Ser Gly Ser His Pro Leu Trp Val Asp Ser Phe
1      5      10      15
Leu His Leu Ala Gly Ser Asp Leu Leu Ser Arg Ser Leu Met Ala Glu
20     25     30
Glu Tyr Thr Ile Val His Ala Ser Phe Ile Ser Cys Ile Ser Ser Ser
35     40     45
Leu Asp Gly Gln Gly Glu Arg Gln Glu Arg Gly His Phe Trp Arg
50     55     60
Pro Gln Arg Leu Leu Cys Glu Asp Ala Trp Glu Gln Glu Val Gln Val
65     70     75     80
Val Leu Pro Leu Leu Pro Leu Leu Gln Gly Ser Gly Lys Ser Asn Val
85     90     95
Val Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe Met Asp Pro Arg Tyr
100    105    110
His Val His Gly Glu Asp Leu Asp Lys Leu His Arg Ala Ala Trp Trp
115    120    125
Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met Leu Arg Asp Thr Asp
130    135    140
Val Asn Lys Arg Asp Lys Gln Lys Arg Thr Ala Leu His Leu Ala Ser
145    150    155    160
Ala Asn Gly Asn Ser Glu Val Val Lys Leu Val Leu Asp Arg Arg Cys
165    170    175
Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr Ala Leu Thr Lys Ala
180    185    190
Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met Leu Leu Glu His Gly
195    200    205
Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr
210    215    220
Ala Val Tyr Asn Glu Asp Lys Leu Met Ala Lys Ala Leu Leu Leu Tyr
225    230    235    240
Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly Leu Thr Pro Leu Leu
245    250    255
Leu Gly Ile His Glu Gln Lys Gln Gln Val Val Lys Phe Leu Ile Lys
260    265    270
Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr Gly Arg Thr Ala Leu
275    280    285
Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile Val Ser Pro Leu Leu

```

290 295 300
 Glu Gln Asn Val Asp Val Ser Ser Gln Asp Leu Glu Arg Arg Pro Glu
 305 310 315 320
 Ser Met Leu Phe Leu Val Ile Ile Met
 325

<210> 377
 <211> 148
 <212> PRT
 <213> Homo sapien

<220>
 <221> VARIANT
 <222> (1)...(148)
 <223> Xaa = Any Amino Acid

<400> 377
 Met Thr Xaa Pro Ser Trp Ser Pro Gly Thr Thr Ser Val Glu Lys Ile
 1 5 10 15
 Trp Thr Ser Ser Thr Glu Leu Pro Trp Trp Gly Lys Val Pro Arg Lys
 20 25 30
 Asp Leu Ile Val Met Leu Arg Asp Thr Asp Val Asn Lys Xaa Asp Lys
 35 40 45
 Gln Lys Arg Thr Ala Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu
 50 55 60
 Val Val Lys Leu Xaa Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp
 65 70 75 80
 Asn Lys Lys Arg Thr Ala Leu Xaa Lys Ala Val Gln Cys Gln Glu Asp
 85 90 95
 Glu Cys Ala Leu Met Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro
 100 105 110
 Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr Ala Xaa Tyr Asn Glu Asp
 115 120 125
 Lys Leu Met Ala Lys Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser
 130 135 140
 Lys Asn Lys Val
 145

<210> 378
 <211> 1719
 <212> PRT
 <213> Homo sapien

<400> 378
 Met Val Val Glu Val Asp Ser Met Pro Ala Ala Ser Ser Val Lys Lys
 1 5 10 15
 Pro Phe Gly Leu Arg Ser Lys Met Gly Lys Trp Cys Cys Arg Cys Phe
 20 25 30
 Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly Thr Ser Gly Asp
 35 40 45
 His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys Met Gly Lys Trp
 50 55 60
 Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val
 65 70 75 80
 Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Asn

85 90 95
 Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys Cys Arg Gly Ser
 100 105 110
 Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe
 115 120 125
 Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu Asp Lys Leu His
 130 135 140
 Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met
 145 150 155 160
 Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln Lys Arg Thr Ala
 165 170 175
 Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val Val Lys Leu Leu
 180 185 190
 Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr
 195 200 205
 Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met
 210 215 220
 Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn
 225 230 235 240
 Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys Leu Met Ala Lys
 245 250 255
 Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly
 260 265 270
 Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys Gln Gln Val Val
 275 280 285
 Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr
 290 295 300
 Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile
 305 310 315 320
 Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser Ser Gln Asp Leu
 325 330 335
 Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser His His Val
 340 345 350
 Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln Met Leu Lys Ile
 355 360 365
 Ser Ser Glu Asn Ser Asn Pro Glu Asn Val Ser Arg Thr Arg Asn Lys
 370 375 380
 Pro Arg Thr His Met Val Val Glu Val Asp Ser Met Pro Ala Ala Ser
 385 390 395 400
 Ser Val Lys Lys Pro Phe Gly Leu Arg Ser Lys Met Gly Lys Trp Cys
 405 410 415
 Cys Arg Cys Phe Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly
 420 425 430
 Thr Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys
 435 440 445
 Met Gly Lys Trp Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly
 450 455 460
 Lys Ser Asn Val Gly Ala Ser Gly Asp His Asp Ser Ala Met Lys
 465 470 475 480
 Thr Leu Arg Asn Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys
 485 490 495
 Cys Arg Gly Ser Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp
 500 505 510
 Asp Ser Ala Phe Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu
 515 520 525


```

Asp Lys Leu His Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp
530                      535                      540
Leu Ile Val Met Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln
545                      550                      555                      560
Lys Arg Thr Ala Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val
565                      570                      575
Val Lys Leu Leu Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn
580                      585                      590
Lys Lys Arg Thr Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu
595                      600                      605
Cys Ala Leu Met Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp
610                      615                      620
Glu Tyr Gly Asn Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys
625                      630                      635                      640
Leu Met Ala Lys Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys
645                      650                      655
Asn Lys His Gly Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys
660                      665                      670
Gln Gln Val Val Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala
675                      680                      685
Leu Asp Arg Tyr Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly
690                      695                      700
Ser Ala Ser Ile Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser
705                      710                      715                      720
Ser Gln Asp Leu Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser
725                      730                      735
His His His Val Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln
740                      745                      750
Met Leu Lys Ile Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys
755                      760                      765
Leu Thr Ser Glu Glu Glu Ser Gln Arg Phe Lys Gly Ser Glu Asn Ser
770                      775                      780
Gln Pro Glu Lys Met Ser Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp
785                      790                      795                      800
Arg Glu Val Glu Glu Glu Met Lys Lys His Glu Ser Asn Asn Val Gly
805                      810                      815
Leu Leu Glu Asn Leu Thr Asn Gly Val Thr Ala Gly Asn Gly Asp Asn
820                      825                      830
Gly Leu Ile Pro Gln Arg Lys Ser Arg Thr Pro Glu Asn Gln Gln Phe
835                      840                      845
Pro Asp Asn Glu Ser Glu Glu Tyr His Arg Ile Cys Glu Leu Val Ser
850                      855                      860
Asp Tyr Lys Glu Lys Gln Met Pro Lys Tyr Ser Ser Glu Asn Ser Asn
865                      870                      875                      880
Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Leu
885                      890                      895
Glu Gly Ser Glu Asn Gly Gln Pro Glu Leu Glu Asn Phe Met Ala Ile
900                      905                      910
Glu Glu Met Lys Lys His Gly Ser Thr His Val Gly Phe Pro Glu Asn
915                      920                      925
Leu Thr Asn Gly Ala Thr Ala Gly Asn Gly Asp Asp Gly Leu Ile Pro
930                      935                      940
Pro Arg Lys Ser Arg Thr Pro Glu Ser Gln Gln Phe Pro Asp Thr Glu
945                      950                      955                      960
Asn Glu Glu Tyr His Ser Asp Glu Gln Asn Asp Thr Gln Lys Gln Phe

```

	965		970		975
Cys Glu Glu Gln Asn Thr Gly Ile Leu His Asp Glu Ile Leu Ile His					
	980		985		990
Glu Glu Lys Gln Ile Glu Val Val Glu Lys Met Asn Ser Glu Leu Ser					
	995		1000		1005
Leu Ser Cys Lys Lys Glu Lys Asp Ile Leu His Glu Asn Ser Thr Leu					
	1010		1015		1020
Arg Glu Glu Ile Ala Met Leu Arg Leu Glu Leu Asp Thr Met Lys His					
	1025		1030		1035
Gln Ser Gln Leu Pro Arg Thr His Met Val Val Glu Val Asp Ser Met					
	1045		1050		1055
Pro Ala Ala Ser Ser Val Lys Lys Pro Phe Gly Leu Arg Ser Lys Met					
	1060		1065		1070
Gly Lys Trp Cys Cys Arg Cys Phe Pro Cys Cys Arg Glu Ser Gly Lys					
	1075		1080		1085
Ser Asn Val Gly Thr Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr					
	1090		1095		1100
Leu Arg Ser Lys Met Gly Lys Trp Cys Arg His Cys Phe Pro Cys Cys					
	1105		1110		1115
Arg Gly Ser Gly Lys Ser Asn Val Gly Ala Ser Gly Asp His Asp Asp					
	1125		1130		1135
Ser Ala Met Lys Thr Leu Arg Asn Lys Met Gly Lys Trp Cys Cys His					
	1140		1145		1150
Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Lys Val Gly Ala Trp					
	1155		1160		1165
Gly Asp Tyr Asp Asp Ser Ala Phe Met Glu Pro Arg Tyr His Val Arg					
	1170		1175		1180
Gly Glu Asp Leu Asp Lys Leu His Arg Ala Ala Trp Trp Gly Lys Val					
	1185		1190		1195
Pro Arg Lys Asp Leu Ile Val Met Leu Arg Asp Thr Asp Val Asn Lys					
	1205		1210		1215
Lys Asp Lys Gln Lys Arg Thr Ala Leu His Leu Ala Ser Ala Asn Gly					
	1220		1225		1230
Asn Ser Glu Val Val Lys Leu Leu Leu Asp Arg Arg Cys Gln Leu Asn					
	1235		1240		1245
Val Leu Asp Asn Lys Lys Arg Thr Ala Leu Ile Lys Ala Val Gln Cys					
	1250		1255		1260
Gln Glu Asp Glu Cys Ala Leu Met Leu Leu Glu His Gly Thr Asp Pro					
	1265		1270		1275
Asn Ile Pro Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr Ala Ile Tyr					
	1285		1290		1295
Asn Glu Asp Lys Leu Met Ala Lys Ala Leu Leu Leu Tyr Gly Ala Asp					
	1300		1305		1310
Ile Glu Ser Lys Asn Lys His Gly Leu Thr Pro Leu Leu Leu Gly Val					
	1315		1320		1325
His Glu Gln Lys Gln Gln Val Val Lys Phe Leu Ile Lys Lys Lys Ala					
	1330		1335		1340
Asn Leu Asn Ala Leu Asp Arg Tyr Gly Arg Thr Ala Leu Ile Leu Ala					
	1345		1350		1355
Val Cys Cys Gly Ser Ala Ser Ile Val Ser Leu Leu Leu Glu Gln Asn					
	1365		1370		1375
Ile Asp Val Ser Ser Gln Asp Leu Ser Gly Gln Thr Ala Arg Glu Tyr					
	1380		1385		1390
Ala Val Ser Ser His His His Val Ile Cys Gln Leu Leu Ser Asp Tyr					
	1395		1400		1405

Lys Glu Lys Gln Met Leu Lys Ile Ser Ser Glu Asn Ser Asn Pro Glu
 1410 1415 1420
 Gln Asp Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Phe Lys Gly
 1425 1430 1435 144
 Ser Glu Asn Ser Gln Pro Glu Lys Met Ser Gln Glu Pro Glu Ile Asn
 1445 1450 1455
 Lys Asp Gly Asp Arg Glu Val Glu Glu Glu Met Lys Lys His Glu Ser
 1460 1465 1470
 Asn Asn Val Gly Leu Leu Glu Asn Leu Thr Asn Gly Val Thr Ala Gly
 1475 1480 1485
 Asn Gly Asp Asn Gly Leu Ile Pro Gln Arg Lys Ser Arg Thr Pro Glu
 1490 1495 1500
 Asn Gln Gln Phe Pro Asp Asn Glu Ser Glu Glu Tyr His Arg Ile Cys
 1505 1510 1515 152
 Glu Leu Val Ser Asp Tyr Lys Glu Lys Gln Met Pro Lys Tyr Ser Ser
 1525 1530 1535
 Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu Glu Glu
 1540 1545 1550
 Ser Gln Arg Leu Glu Gly Ser Glu Asn Gly Gln Pro Glu Lys Arg Ser
 1555 1560 1565
 Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp Arg Glu Leu Glu Asn Phe
 1570 1575 1580
 Met Ala Ile Glu Glu Met Lys Lys His Gly Ser Thr His Val Gly Phe
 1585 1590 1595 160
 Pro Glu Asn Leu Thr Asn Gly Ala Thr Ala Gly Asn Gly Asp Asp Gly
 1605 1610 1615
 Leu Ile Pro Pro Arg Lys Ser Arg Thr Pro Glu Ser Gln Gln Phe Pro
 1620 1625 1630
 Asp Thr Glu Asn Glu Glu Tyr His Ser Asp Glu Gln Asn Asp Thr Gln
 1635 1640 1645
 Lys Gln Phe Cys Glu Glu Gln Asn Thr Gly Ile Leu His Asp Glu Ile
 1650 1655 1660
 Leu Ile His Glu Glu Lys Gln Ile Glu Val Val Glu Lys Met Asn Ser
 1665 1670 1675 168
 Glu Leu Ser Leu Ser Cys Lys Lys Glu Lys Asp Ile Leu His Glu Asn
 1685 1690 1695
 Ser Thr Leu Arg Glu Glu Ile Ala Met Leu Arg Leu Glu Leu Asp Thr
 1700 1705 1710
 Met Lys His Gln Ser Gln Leu
 1715

<210> 379

<211> 656

<212> PRT

<213> Homo sapien

<400> 379

Met Val Val Glu Val Asp Ser Met Pro Ala Ala Ser Ser Val Lys Lys
 1 5 10 15
 Pro Phe Gly Leu Arg Ser Lys Met Gly Lys Trp Cys Cys Arg Cys Phe
 20 25 30
 Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly Thr Ser Gly Asp
 35 40 45
 His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys Met Gly Lys Trp
 50 55 60

Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val
 65 70 75 80
 Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Asn
 85 90 95
 Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys Cys Arg Gly Ser
 100 105 110
 Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe
 115 120 125
 Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu Asp Lys Leu His
 130 135 140
 Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met
 145 150 155 160
 Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln Lys Arg Thr Ala
 165 170 175
 Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val Val Lys Leu Leu
 180 185 190
 Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr
 195 200 205
 Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met
 210 215 220
 Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn
 225 230 235 240
 Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys Leu Met Ala Lys
 245 250 255
 Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly
 260 265 270
 Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys Gln Gln Val Val
 275 280 285
 Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr
 290 295 300
 Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile
 305 310 315 320
 Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser Ser Gln Asp Leu
 325 330 335
 Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser His His His Val
 340 345 350
 Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln Met Leu Lys Ile
 355 360 365
 Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu
 370 375 380
 Glu Glu Ser Gln Arg Phe Lys Gly Ser Glu Asn Ser Gln Pro Glu Lys
 385 390 395 400
 Met Ser Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp Arg Glu Val Glu
 405 410 415
 Glu Glu Met Lys Lys His Glu Ser Asn Asn Val Gly Leu Leu Glu Asn
 420 425 430
 Leu Thr Asn Gly Val Thr Ala Gly Asn Gly Asp Asn Gly Leu Ile Pro
 435 440 445
 Gln Arg Lys Ser Arg Thr Pro Glu Asn Gln Gln Phe Pro Asp Asn Glu
 450 455 460
 Ser Glu Glu Tyr His Arg Ile Cys Glu Leu Val Ser Asp Tyr Lys Glu
 465 470 475 480
 Lys Gln Met Pro Lys Tyr Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp
 485 490 495
 Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Leu Glu Gly Ser Glu

```

          500                      505                      510
Asn Gly Gln Pro Glu Leu Glu Asn Phe Met Ala Ile Glu Glu Met Lys
          515                      520                      525
Lys His Gly Ser Thr His Val Gly Phe Pro Glu Asn Leu Thr Asn Gly
          530                      535                      540
Ala Thr Ala Gly Asn Gly Asp Asp Gly Leu Ile Pro Pro Arg Lys Ser
545                      550                      555                      560
Arg Thr Pro Glu Ser Gln Gln Phe Pro Asp Thr Glu Asn Glu Glu Tyr
          565                      570                      575
His Ser Asp Glu Gln Asn Asp Thr Gln Lys Gln Phe Cys Glu Glu Gln
          580                      585                      590
Asn Thr Gly Ile Leu His Asp Glu Ile Leu Ile His Glu Glu Lys Gln
          595                      600                      605
Ile Glu Val Val Glu Lys Met Asn Ser Glu Leu Ser Leu Ser Cys Lys
          610                      615                      620
Lys Glu Lys Asp Ile Leu His Glu Asn Ser Thr Leu Arg Glu Glu Ile
625                      630                      635                      640
Ala Met Leu Arg Leu Glu Leu Asp Thr Met Lys His Gln Ser Gln Leu
          645                      650                      655

```

```

<210> 380
<211> 671
<212> PRT
<213> Homo sapien

```

```

<400> 380
Met Val Val Glu Val Asp Ser Met Pro Ala Ala Ser Ser Val Lys Lys
 1          5          10          15
Pro Phe Gly Leu Arg Ser Lys Met Gly Lys Trp Cys Cys Arg Cys Phe
          20          25          30
Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly Thr Ser Gly Asp
          35          40          45
His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys Met Gly Lys Trp
          50          55          60
Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val
65          70          75          80
Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Asn
          85          90          95
Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys Cys Arg Gly Ser
          100          105          110
Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe
          115          120          125
Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu Asp Lys Leu His
          130          135          140
Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met
145          150          155          160
Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln Lys Arg Thr Ala
          165          170          175
Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val Val Lys Leu Leu
          180          185          190
Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr
          195          200          205
Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met
          210          215          220
Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn

```

225 230 235 240
 Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys Leu Met Ala Lys
 245 250 255
 Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly
 260 265 270
 Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys Gln Gln Val Val
 275 280 285
 Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr
 290 295 300
 Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile
 305 310 315 320
 Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser Ser Gln Asp Leu
 325 330 335
 Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser His His His Val
 340 345 350
 Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln Met Leu Lys Ile
 355 360 365
 Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu
 370 375 380
 Glu Glu Ser Gln Arg Phe Lys Gly Ser Glu Asn Ser Gln Pro Glu Lys
 385 390 395 400
 Met Ser Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp Arg Glu Val Glu
 405 410 415
 Glu Glu Met Lys Lys His Glu Ser Asn Asn Val Gly Leu Leu Glu Asn
 420 425 430
 Leu Thr Asn Gly Val Thr Ala Gly Asn Gly Asp Asn Gly Leu Ile Pro
 435 440 445
 Gln Arg Lys Ser Arg Thr Pro Glu Asn Gln Gln Phe Pro Asp Asn Glu
 450 455 460
 Ser Glu Glu Tyr His Arg Ile Cys Glu Leu Val Ser Asp Tyr Lys Glu
 465 470 475 480
 Lys Gln Met Pro Lys Tyr Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp
 485 490 495
 Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Leu Glu Gly Ser Glu
 500 505 510
 Asn Gly Gln Pro Glu Lys Arg Ser Gln Glu Pro Glu Ile Asn Lys Asp
 515 520 525
 Gly Asp Arg Glu Leu Glu Asn Phe Met Ala Ile Glu Glu Met Lys Lys
 530 535 540
 His Gly Ser Thr His Val Gly Phe Pro Glu Asn Leu Thr Asn Gly Ala
 545 550 555 560
 Thr Ala Gly Asn Gly Asp Asp Gly Leu Ile Pro Pro Arg Lys Ser Arg
 565 570 575
 Thr Pro Glu Ser Gln Gln Phe Pro Asp Thr Glu Asn Glu Glu Tyr His
 580 585 590
 Ser Asp Glu Gln Asn Asp Thr Gln Lys Gln Phe Cys Glu Glu Gln Asn
 595 600 605
 Thr Gly Ile Leu His Asp Glu Ile Leu Ile His Glu Glu Lys Gln Ile
 610 615 620
 Glu Val Val Glu Lys Met Asn Ser Glu Leu Ser Leu Ser Cys Lys Lys
 625 630 635 640
 Glu Lys Asp Ile Leu His Glu Asn Ser Thr Leu Arg Glu Glu Ile Ala
 645 650 655
 Met Leu Arg Leu Glu Leu Asp Thr Met Lys His Gln Ser Gln Leu
 660 665 670

<210> 381
<211> 251
<212> DNA
<213> Homo sapien

<400> 381

ggagaagcgt	ctgctggggc	aggaaggggt	ttccctgccc	tctcacctgt	ccctcaccaa	60
ggtaacatgc	ttcccctaag	ggtatcccaa	cccaggggcc	tcaccatgac	ctctgagggg	120
ccaatatccc	aggagaagca	ttggggagtt	gggggcaggt	gaaggaccca	ggactcacac	180
atcctggggc	tccaaggcag	aggagagggg	cctcaagaag	gtcaggagga	aaatccgtaa	240
caagcagtca	g					251

<210> 382
<211> 3279
<212> DNA
<213> Homo sapiens

<400> 382

cttcctgcag	cccccatgct	ggtgaggggc	acgggcagga	acagtggacc	caacatggaa	60
atgctggagg	gtgtcaggaa	gtgatcgggc	tctggggcag	ggaggagggg	tggggagtgt	120
cactgggagg	ggacatcctg	cagaaggtag	gagtgcagaa	acacccgctg	caggggaggg	180
gagagccctg	cggcacctgg	gggagcagag	ggagcagcac	ctgcccaggc	ctgggaggag	240
gggcctggag	ggcgtgagga	ggagcgaggg	ggctgcatgg	ctggagttag	ggatcagggg	300
cagggcgcga	gatggcctca	cacagggaag	agagggcccc	tctgcaggg	cctcacctgg	360
gccacaggag	gacactgctt	ttcctctgag	gagtcaggag	ctgtggatgg	tgctggacag	420
aagaaggaca	gggcctggct	caggtgtcca	gaggctgtcg	ctggcttccc	tttgggatca	480
gactgcaggg	agggagggcg	gcagggttgt	ggggggagtg	acgatgagga	tgacctgggg	540
gtggctccag	gccttgcccc	tgcctgggcc	ctcaccagc	ctccctcaca	gtctcctggc	600
cctcagtctc	tccctccac	tccatcctcc	atctggcctc	agtgggtcat	tctgatcact	660
gaactgacca	taccagccc	tgccacggc	cctccatggc	tccccaatgc	cctggagagg	720
ggacatctag	tcagagagta	gtcctgaaga	ggtggcctct	gcgatgtgcc	tgtgggggca	780
gcaccttgca	gatgggtccc	gccctcatcc	tgtgacctg	tctgcaggga	ctgtcctcct	840
ggaccttgcc	ccttggtgcag	gagctggacc	ctgaagtccc	ctccccatag	gccaagactg	900
gagccttggt	ccctctgttg	gactccctgc	ccatattctt	gtgggagtgg	gttctggaga	960
catttctgtc	tgttcctgag	agctgggaat	tgctctcagt	catctgcctg	cgcgggttctg	1020
agagatggag	ttgcctaggc	agttattggg	gccaatcttt	ctcactgtgt	ctctcctcct	1080
ttacccttag	ggtgattctg	gggtccact	tgtctgtaat	ggtgtgtctc	aaggatatcac	1140
atcatggggc	cctgagccat	gtgccctgcc	tgaagagcct	gctgtgtaca	ccaaggtggg	1200
gcattaccgg	aagtggatca	aggacaccat	cgcagccaac	ccctgagtgc	ccctgtccca	1260
cccctacctc	tagtaaattt	aagtccacct	cacgttctgg	catcacttgg	cctttctgga	1320
tgctggacac	ctgaagcttg	gaactcacct	ggcgaagct	cgagcctcct	gagtcctact	1380
gacctgtgct	ttctgggtgtg	gagtccaggg	ctgctaggaa	aaggaatggg	cagacacagg	1440
tgtatgccaa	tgtttctgaa	atgggtataa	ttctgtcctc	tccttcggaa	cactggctgt	1500
ctctgaagac	ttctcgctca	gtttcagtga	ggacacacac	aaagacgtgg	gtgacctagt	1560
tgtttgtggg	gtgcagagat	gggaggggtg	gggcccaccc	tggaagagtg	gacagtgaca	1620
caaggtggac	actctctaca	gatcactgag	gataagctgg	agccacaatg	catgaggcac	1680
acacacagca	aggttgacgc	tgtaaacata	gcccacgctg	tcctgggggc	actgggaagc	1740
ctagataagg	ccgtgagcag	aaagaagggg	aggatcctcc	tatgttgttg	aaggagggac	1800
tagggggaga	aactgaaagc	tgattaatta	caggaggttt	gttcaggtcc	cccaaaccac	1860
cgtcagattt	gatgatttcc	tagcaggact	tacagaaata	aagagctatc	atgctgtggg	1920
ttattatggg	ttgttacatt	gataggatac	atactgaaat	cagcaaacia	aacagatgta	1980
tagattagag	tgtggagaaa	acagaggaaa	acttgacgtt	acgaagactg	gcaacttggc	2040
tttactaagt	tttcagactg	gcaggaagtc	aaacctatta	ggctgaggac	cttgtggagt	2100
gtagctgata	cagctgatag	aggaactagc	caggtggggg	cctttccctt	tggatggggg	2160

```

gcatatccga cagttattct ctccaagtgg agacttacgg acagcatata attctccctg 2220
caaggatgta tgataatatg tacaaagtaa ttccaactga ggaagctcac ctgatcctta 2280
gtgtccaggg tttttactgg gggctctgtg gacgagtatg gactacttga ataattgacc 2340
tgaagtcttc agacctgagg ttccctagag ttcaaacaga tacagcatgg tccagagtcc 2400
cagatgtaca aaaacaggga ttcattcaca atccccatctt tagcatgaag ggtctggcat 2460
ggcccaaggc cccaagtata tcaaggcact tgggcagaac atgccaagga atcaaagtgc 2520
atctcccagg agttattcaa gggtagagccc tttacttggg atgtacaggc tttgagcagt 2580
gcagggctgc tgagtcaacc ttttattgta caggggatga gggaaaggga gaggatgagg 2640
aagccccctt ggggatttgg tttggtcttg tgatcagggtg gtctatgggg ctatccctac 2700
aaagaagaat ccagaaatag gggcacattg aggaatgata ctgagcccaa agagcattca 2760
atcattgttt tatttgcctt cttttcacac cattggtgag ggagggatta ccaccctggg 2820
gttatgaaga tggttgaaca cccacacat agcaccggag atatgagatc aacagtttct 2880
tagccataga gattcacagc ccagagcagg aggacgctgc acaccatgca ggatgacatg 2940
ggggatgcgc tcgggattgg tgtgaagaag caaggactgt tagaggcagg ctttatagta 3000
acaagacggg ggggcaaact ctgatttccg tgggggaatg tcatggtctt gctttactaa 3060
gttttgagac tggcaggtag tgaaactcat taggctgaga accttgtgga atgcagctga 3120
cccagctgat agaggaagta gccagggtggg agcctttccc agtgggtgtg ggacatatct 3180
ggcaagattt tgtggcactc ctggttacag atactggggc agcaaataaa actgaatctt 3240
gttttcagac cttaaaaaaa aaaaaaaaaa aaaagttttt 3279

```

<210> 383

<211> 155

<212> PRT

<213> Homo sapiens

<400> 383

```

Met Ala Gly Val Arg Asp Gln Gly Gln Gly Ala Arg Trp Pro His Thr
      5                      10                      15

Gly Lys Arg Gly Pro Leu Leu Gln Gly Leu Thr Trp Ala Thr Gly Gly
      20                      25                      30

His Cys Phe Ser Ser Glu Glu Ser Gly Ala Val Asp Gly Ala Gly Gln
      35                      40                      45

Lys Lys Asp Arg Ala Trp Leu Arg Cys Pro Glu Ala Val Ala Gly Phe
      50                      55                      60

Pro Leu Gly Ser Asp Cys Arg Glu Gly Gly Arg Gln Gly Cys Gly Gly
      65                      70                      75                      80

Ser Asp Asp Glu Asp Asp Leu Gly Val Ala Pro Gly Leu Ala Pro Ala
      85                      90                      95

Trp Ala Leu Thr Gln Pro Pro Ser Gln Ser Pro Gly Pro Gln Ser Leu
      100                     105                     110

Pro Ser Thr Pro Ser Ser Ile Trp Pro Gln Trp Val Ile Leu Ile Thr
      115                     120                     125

Glu Leu Thr Ile Pro Ser Pro Ala His Gly Pro Pro Trp Leu Pro Asn
      130                     135                     140

Ala Leu Glu Arg Gly His Leu Val Arg Glu
      145                     150

```


<210> 384
<211> 557
<212> DNA
<213> Homo sapiens

<400> 384
ggatcctcta gagcggccgc ctactactac taaattcgcg gccgcgtcga cgaagaagag 60
aaagatgtgt tttgttttgg actctctgtg gtcccttcca atgctgtggg ttccaacca 120
ggggaagggt cccttttgca ttgccaaagt ccataacat gagcactact ctaccatgg 180
tctgcctcct ggccaagcag gctggtttgc aagaatgaaa tgaatgattc tacagctagg 240
acttaacctt gaaatggaaa gtcttgcaat cccatttgca ggatccgtct gtgcacatgc 300
ctctgtagag agcagcattc ccagggacct tggaaacagt tggcactgta aggtgcttgc 360
tccccaagac acatcctaaa aggtgttgta atggtgaaaa cgtcttcctt ctttattgcc 420
ccttcttatt tatgtgaaca actgtttgc tttttttgta tcttttttaa actgtaaagt 480
tcaattgtga aaatgaatat catgcaaata aattatgcga ttttttttcc aaagtaaaaa 540
aaaaaaaaaa aaaaaaa 557

<210> 385
<211> 337
<212> DNA
<213> Homo sapiens

<400> 385
ttcccagggt atgtgcgagg gaagacacat ttactatcct tgatggggct gattccttta 60
gtttctctag cagcagatgg gttaggagga agtgacccaa gtggttgact cctatgtgca 120
tctcaaagcc atctgctgtc ttcgagtacg gacacatcat cactcctgca ttgttgatca 180
aaacgtggag gtgcttttcc tcagctaaga agcccttagc aaaagctcga atagacttag 240
tatcagacag gtccagtttc cgcaccaaca cctgctgggt ccctgtcgtg gtctggatct 300
ctttggccac caattcccc tttccacat cccggca 337

<210> 386
<211> 300
<212> DNA
<213> Homo sapiens

<400> 386
gggcccgtca ccggcccagg ccccgctcgc cgagtcctcc tccccgggtg cctgcccgcga 60
gcccgcctcg cccagagggt gggcgcgggg ctgcctctac cggctggcgg ctgtaactca 120
gcgaccttgg cccgaaggct ctagcaagga ccaccgacc ccagccgcgg cggcggcggc 180
gcggactttg cccggtgtgt ggggcggagc ggactgcgtg tccgcggacg ggcagcgaag 240
atgttagcct tcgctgccag gaccgtggac cgatcccagg gctgtggtgt aacctcagcc 300

<210> 387
<211> 537
<212> DNA
<213> Homo sapiens

<400> 387
gggcccagtc gggcaccaag ggactctttg caggcttccct tcctcggatc atcaaggctg 60
ccccctcctg tgccatcatg atcagcacct atgagttcgg caaaagcttc ttccagaggc 120
tgaaccagga ccggcttctg ggcggtgaa aggggcaagg aggcaaggac cccgtctctc 180
ccacggatgg ggagagggca ggaggagacc cagccaagtg ccttttcctc agcactgagg 240
gagggggcct gtttcccttc cctcccggcg acaagctcca gggcagggtg gtccctctgg 300

```

gcggcccagc acttcctcag acacaacttc ttcttgetgc tccagtcgtg gggatcatca 360
cttaccacc cccaagttc aagaccaaat cttccagctg ccccttcgt gttccctgt 420
gtttgctgta gctgggcatg tctccaggaa ccaagaagcc ctcagcctgg tgtagtctcc 480
ctgacccttg ttaattcctt aagtctaaag atgatgaact tcaaaaaaaaa aaaaaaa 537

```

<210> 388

<211> 520

<212> DNA

<213> Homo sapiens

<400> 388

```

aggataattt ttaaaccaat caaatgaaaa aaacaaacaa acaaaaaagg aaatgtcatg 60
tgagggttaaa ccagtttgca ttccccta atgtggaaaa taagaggact actcagcact 120
gtttgaagat tgccctctct acagcttctg agaattgtgt tatttcactt gccaaagtga 180
ggacccccct cccaacatgc cccagcccac ccctaagcat ggtcccttgt caccaggcaa 240
ccaggaaact gctacttggt gacctcacca gagaccagga gggtttggtt agctcacagg 300
acttccccca cccagaaga ttagcatccc atactagact catactcaac tcaactaggc 360
tcatactcaa ttgatgggta ttagacaatt ccatttcttt ctgggtatta taaacagaaa 420
atctttcctc ttctcattac cagtaaaggc tcttggtatc tttctgttgg aatgatttct 480
atgaacttgt cttattttaa tgggtgggtt ttttctggt 520

```

<210> 389

<211> 365

<212> DNA

<213> Homo sapiens

<400> 389

```

cgttgcccc a gtttgacaga aggaaaggcg gagcttattc aaagtctaga gggagtggag 60
gagttaaaggc tggatttcag atctgcctgg ttccagccgc agtgtgccct ctgctcccc 120
aacgactttc caaataatct caccagcgcc ttccagctca ggcgtcctag aagcgtcttg 180
aagcctatgg ccagctgtct ttgtgttccc tctcaccgc ctgtcctcac agctgagact 240
cccaggaaac cttcagacta ccttctctg ccttcagcaa ggggcgttgc ccacattctc 300
tgaggggtcag tggagaacc tagactccca ttgctagagg tagaaagggg aagggtgctg 360
gggag 365

```

<210> 390

<211> 221

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(221)

<223> n = A,T,C or G

<400> 390

```

tgccctctcca tcctggcccc gacttctctg tcaggaaagt ggggatggac cccatctgca 60
tacacggntt ctcatgggtg tggaaacatct ctgcttgccg ttccaggaag gcctctggct 120
gctctangag tctgancga ntcgttgccc cantntgaca naaggaaagg cggagcttat 180
tcaaagtcta gagggagtgg aggagttaag gctggatttc a 221

```

<210> 391

<211> 325

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(325)

<223> n = A,T,C or G

<400> 391

```
tggagcaggt cccgaggcct ccctagagcc tggggccgac tctgtgncca tgcangcttt 60
ctctcgcgcc cagcctggag ctgctcctgg catctaccaa caatcagncc aggcgagcag 120
tagccagggc actgctgcca acagccagtc cnnataccat catgtnaccc ggtgngctct 180
naanttngat ntccanagcc ctacccaatn tagttctgct ctcccaccgg ntaccagccc 240
cactgcccag gaatcctaca gccagtaccc tgtcccgcag tctctaccta ccagtacgat 300
gagacctccg gctactacta tgacc                                     325
```

<210> 392

<211> 277

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(277)

<223> n = A,T,C or G

<400> 392

```
atattgttta actccttctt ttatatcttt taacattttc atggngaaag gttcacatct 60
agtctcactt nggcnagnn ctctacttg agtctcttcc ccggcctggn ccagtngnaa 120
antaccanga accgncatgn cttaanaacn ncctggtttn tgggttnntc aatgactgca 180
tgcagtgcac caccctgtcc actacgtgat gctgtaggat taaagtctca cagtgggcgg 240
ctgaggatac agcgccgcgt cctgtgttgc tgggggaa                                     277
```

<210> 393

<211> 566

<212> DNA

<213> Homo sapiens

<400> 393

```
actagtccag tgtggtggaa ttgcgggccc cgtcgacgga caggtcagct gtctggctca 60
gtgatctaca ttctgaagtt gtctgaaaat gtcttcatga ttaaattcag cctaaacgtt 120
ttgccgggaa cactgcagag acaatgctgt gagtttccaa ccttagccca tctgcgggca 180
gagaaggctc agtttgtcca tcagcattat catgatatca ggactgggta cttgggtaag 240
gaggggtcta ggagatctgt ccctttttaga gacaccttac ttataatgaa gtatttggga 300
gggtggtttt caaaagtaga aatgtcctgt attccgatga tcatcctgta aacattttat 360
catttattaa tcatccctgc ctgtgtctat tattatattc atatctctac gctggaaact 420
ttctgcctca atgtttactg tgcttttgtt tttgctagtt tgtgttggtg aaaaaaaaaa 480
cattctctgc ctgagtttta atttttgtcc aaagttattt taatctatac aattaaaagc 540
ttttgcctat caaaaaaaaaa aaaaaa                                     566
```

<210> 394

<211> 384

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(384)

<223> n = A,T,C or G

<400> 394

```

gaacatacat gtcccggcac ctgagctgca gtctgacatc atcgccatca cgggcctcgc 60
tgcaaatnng gaccgggcca aggctggact gctggagcgt gtgaaggagc tacaggccna 120
gcaggaggac cgggcttttaa ggagtttttaa gctgagtgct actgtagacc ccaaatacca 180
tcccaagatt atcgggagaa agggggcagt aattacccaa atccggttgg agcatgacgt 240
gaacatccag tttcctgata aggacgatgg gaaccagccc caggaccaa ttaccatcac 300
agggtacgaa aagaacacag aagctgccag ggatgctata ctgagaattg tgggtgaact 360
tgagcagatg gtttctgagg acgt

```

384

<210> 395

<211> 399

<212> DNA

<213> Homo sapiens

<400> 395

```

ggcaaaactg tgtgacctca ataagacctc gcagatccaa ggtcaagtat cagaagtgc 60
tctgaccttg gactccaaga cctacatcaa cagcctggct atattagatg atgagccagt 120
tatcagaggt ttcattcattg cggaaattgt ggagtctaag gaaatcatgg cctctgaagt 180
attcacgtct ttccagtacc ctgagttctc tatagagttg cctaacacag gcagaattgg 240
ccagctactt gtctgcaatt gtatcttcaa gaataccctg gccatccctt tgactgacgt 300
caagttctct ttggaaagcc tgggcatctc ctactacag acctctgacc atgggacggg 360
gcagcctggg gagaccatcc aatcccaaat aaaatgcac

```

399

<210> 396

<211> 403

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(403)

<223> n = A,T,C or G

<400> 396

```

tggagtntc agtgcaaaca agccataaag cttcagtagc aaattactgt ctcacagaaa 60
gacattttca acttctgctc cagctgctga taaaacaaat catgtgttta gcttgactcc 120
agacaaggac aacctgttcc ttcataactc tctagagaaa aaaaggagtt gttagtagat 180
actaaaaaaaa gtggatgaat aatctggata tttttcctaa aaagattcct tgaaacacat 240
taggaaaaatg gagggcctta tgatcagaat gctagaatta gtccattgtg ctgaagcagg 300
gttttagggga gggagtgagg gataaaaagaa ggaaaaaaag aagagtgaga aaacctattt 360
atcaaagcag gtgctatcac tcaatgttag gccctgctct ttt

```

403

<210> 397

<211> 100

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(100)

<223> n = A,T,C or G

<400> 397

actagtnacag tgtgggtggaa ttcgcggccg cgtcgaccta naanccatct ctatagcaaa 60
tccatccccg ctcttggttg gtnacagaat gactgacaaa 100

<210> 398

<211> 278

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(278)

<223> n = A,T,C or G

<400> 398

gcggccgcgt cgacagcagt tccgccagcg ctgcgccctg ggtggggatg tgctgcacgc 60
ccacctggac atctggaagt cagcggcctg gatgaaagag cggacttcac ctggggcgat 120
tcaactactgt gcctcgacca gtgaggagag ctggaccgac agcgaggttg actcatcatg 180
ctccgggcag cccatccacc tgtggcagtt cctcaaggag ttgctactca agccccacag 240
ctatggccgc ttcattangt ggctcaacaa ggagaagg 278

<210> 399

<211> 298

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(298)

<223> n = A,T,C or G

<400> 399

acggaggttg aggaagcgnc cctgggatcg anaggatggg tcctgncatt gaccncctcn 60
ggggtgccng catggagcgc atgggcgcgg gcctgggcca cggcatggat cgcgtgggct 120
ccgagatcga gcgcattggc ctggatcatg accgcatggg ctccgtggag cgcattgggct 180
ccggcattga gcgcattggc ccgctgggcc tcgaccacat ggctccanc attgancgca 240
tgggccagac catggagcgc attggctctg gcgtggagcn catgggtgcc ggcatggg 298

<210> 400

<211> 548

<212> DNA

<213> Homo sapiens

<400> 400

acatcaacta ctctctcatt ttaaggtatg gcagttccct tcatccccctt ttctgcctt 60
gtacatgtac atgtatgaaa ttctcttctc ttaccgaact ctctccacac atcacaagg 120
caaagaacca cagccttaga agggtaagag ggcaccctat gaaatgaaat ggtgatttct 180
tgagtctctt ttttccacgt ttaagggggc atggcaggac ttagagttgc gagttaagac 240
tgcagagggc tagagaatta tttcatacag gctttgaggc caccatgtc acttatcccc 300
tataccctct caccatcccc ttgtctactc tgatgcccc aagatgcaac tgggcagcta 360
gttggcccca taattctggg cctttgttgt ttgttttaat tacttgggca tcccaggaag 420
ctttccagt atctctacc atgggcccc ctctgggat caagccctc ccaggccctg 480
tccccagccc ctctgcccc agcccacccg cttgccttgg tgctcagccc tcccattggg 540
agcaggtt 548

<210> 401
<211> 355
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(355)
<223> n = A,T,C or G

<400> 401
actgtttcca tgttatgttt ctacacattg ctacctcagt gtccttgga acttagcttt 60
tgatgtctcc aagtagtcca ccttcattta actctttgaa actgtatcat ctttgccaag 120
taagagtggg ggcctatttc agctgctttg acaaaatgac tggctcctga cttaacgttc 180
tataaatgaa tgtgctgaag caaagtgtcc atggtggcgg cgaagaagan aaagatgtgt 240
tttgttttgg actctctgtg gtcccttcca atgctgnggg tttccaacca ggggaagggg 300
cccttttgca ttgccaagtg ccataaccat gagcactact ctaccatggn tctgc 355

<210> 402
<211> 407
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(407)
<223> n = A,T,C or G

<400> 402
atggggcaag ctggataaag aaccaagacc cactggagta tgctgtcttc aagaaacca 60
tctcacatgc ggtggcatac ataggctcaa aataaaggaa tggagaaaaa tatttcaagc 120
aaatggaaaa cagaaaaaag caggtgttgc actcctactt tctgacaaaa cagactatgc 180
gaataaagat aaaaaagaga aggacattac aaagggtggc ctgacctttg ataaatctca 240
ttgcttgata ccaacctggg ctgttttaat tgcccaaacc aaaaggataa tttgctgagg 300
ttgtggagct tctcccctgc agagagtccc tgatctccca aaatttggtt gagatgtaag 360
gntgattttg ctgacaactc cttttctgaa gttttactca tttccaa 407

<210> 403
<211> 303
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(303)
<223> n = A,T,C or G

<400> 403
cagtatttat agccnaactg aaaagctagt agcaggcaag tctcaaattc aggcacaaaa 60
tcctaagcaa gagccatggc atggtgaaaa tgcaaaagga gagtctggcc aatctacaaa 120
tagagaacaa gacctactca gtcattgaaca aaaaggcaga caccaacatg gatctcatgg 180
gggattggat attgtaatta tagagcagga agatgacagt gatcgctcatt tggcacaaca 240
tcttaacaac gaccgaaacc cattatttac ataaacctcc attcggtaac catgttgaaa 300
gga 303

<210> 404
<211> 225
<212> DNA
<213> Homo sapiens

<400> 404
aagtgttaact tttaaaaaatt tagtggattt tgaaaattct tagaggaaag taaaggaaaa 60
attgttaatg cactcattta cctttacatg gtgaaagtgc tctcttgatc ctacaaacag 120
acattttcca ctctgtgttc catagtgtt aagtgtatca gatgtgttg gcattgtgaat 180
ctccaagtgc ctgtgtaata aataaagtat ctttatttca ttcatt 225

<210> 405
<211> 334
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(334)
<223> n = A,T,C or G

<400> 405
gagctgttat actgtgagtt ctactaggaa atcatcaaatt ctgaggggtg tctggaggac 60
ttcaatacac ctccccccat agtgaatcag cttccagggg gtccagtcct tctccttact 120
tcatcccat cccatgccaa aggaagacc tccctccttg gctcacagcc ttctctaggc 180
ttcccagtgc ctccaggaca gagtgggtta tgttttcagc tccatccttg ctgtgagtg 240
ctggtgcggt tgtgcctcca gcttctgctc agtgcttcat ggacagtgtc cagcccatgt 300
cactctccac tctctcannng tggatcccac ccct 334

<210> 406
<211> 216
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(216)
<223> n = A,T,C or G

<400> 406
tttcatacct aatgagggag ttganatnac atnnaaccag gaaatgcatg gatctcaang 60
gaaacaaaca cccaataaac tcggagtggc agactgacaa ctgtgagaca tgcacttgct 120
acnaaacaca aatttnatgt tgcacccttg tttctacacc tgtgggttat gacaaagaca 180
actgccaaag aatnttcaag aaggaggact gccant 216

<210> 407
<211> 413
<212> DNA
<213> Homo sapiens

<400> 407
gctgacttgc tagtatcatc tgcattcatt gaagcacaag aacttcatgc cttgactcat 60
gtaaatgcaa taggattaaa aaataaattt gatatcacat ggaaacagac aaaaaatatt 120
gtacaacatt gcacccagtgc tcagattcta cacctggcca ctcaggaagc aagagttaat 180
cccagaggtc tatgtcctaa tgtgttatgg caaatggatg tcatgcacgt accttcattt 240

```

ggaaaaattgt catttgtcca tgtgacagtt gatacttatt cacatttcat atgggcaacc 300
tgccagacag gagaaagtct tcccatgtta aaagacattt attatcttgt tttcctgtca 360
tgggagttcc agaaaaagtt aaaacagaca atgggccagg ttctgtagta aag          413

```

<210> 408

<211> 183

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(183)

<223> n = A,T,C or G

<400> 408

```

ggagctngcc ctcaattcct ccatntctat gttancatat ttaatgtctt ttggnattaa 60
tnccttaacta gttaatcctt aaagggctan ntaatcctta actagtcctt ccattgtgag 120
cattatcctt ccagtattcn ccttctnttt tatttactcc ttcttggtta cccatgtact 180
ntt                                     183

```

<210> 409

<211> 250

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(250)

<223> n = A,T,C or G

<400> 409

```

cccacgcattg ataagctctt tatttctgta agtcctgcta ggaaatcatc aaatctgacg 60
gtgggttggg ggacattgaac aaacctcctg taattaatca gctttcagtt tctcccccta 120
gtccctcctt caacaacata ggaggatcct ccccttcttt ctgctcacgg ccttatctag 180
gcttccagat gccccagga cagcgtgggc tatgtttaca gcgcntcctt gctggggggg 240
ggcctatgc                                     250

```

<210> 410

<211> 306

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(306)

<223> n = A,T,C or G

<400> 410

```

ggctgggttg caagaatgaa atgaatgatt ctacagctag gacttaacct tgaaatggaa 60
agtcttgcaa tccatttgc aggatccgtc tgtgcacatg cctctgtaga gagcagcatt 120
ccaggggacc ttggaaacag ttggcactgt aagggtgctt ctccccaaaga cacatcctaa 180
aagggtgttg aatggtgaaa accgcttctt tctttattgc cccttcttat ttatgtgaac 240
nactgggttg ctttttttgn atctttttta aactggaaag ttcaattgng aaaatgaata 300
tctntgc                                     306

```


<210> 411
 <211> 261
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(261)
 <223> n = A,T,C or G

<400> 411
 agagatattn cttaggtnaa agttcataga gttcccatga actatatgac tggccacaca 60
 ggatcttttg tatttaagga ttctgagatt ttgcttgagc aggattagat aaggctgttc 120
 tttaaatgtc tgaaatggaa cagatttcaa aaaaaaaccc cacaatctag ggtgggaaca 180
 aggaaggaaa gatgtgaata ggctgatggg caaaaaacca atttaccat cagttccagc 240
 cttctctcaa ggngaggcaa a 261

<210> 412
 <211> 241
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(241)
 <223> n = A,T,C or G

<400> 412
 gttcaatgtt acctgacatt tctacaacac ccactcacc gatgtattcg ttgccagtg 60
 ggaacatacc agcctgaatt tggaaaaaat aattgtgttt cttgcccagg aaatactacg 120
 actgactttg atggctccac aaacataacc cagtgtaaaa acagaagatg tggaggggag 180
 ctgggagatt tcaactgggtta cattgaattc ccaaactacc cangcaatta ccagccaac 240
 a 241

<210> 413
 <211> 231
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(231)
 <223> n = A,T,C or G

<400> 413
 aactcttaca atccaagtga ctcatctgtg tgcttgaatc ctttccactg tctcatctcc 60
 ctcatccaag tttctagtag cttctctttg ttgtgaagga taatcaaact gaacaacaaa 120
 aagtttactc tcttcatttg gaacctaaaa actctcttct tcttgggtct gagggctcca 180
 agaatccttg aatcanttct cagatcattg gggacaccan atcaggaacc t 231

<210> 414
 <211> 234
 <212> DNA
 <213> Homo sapiens

```

<400> 414
actgtccatg aagcactgag cagaagctgg aggcacaacg caccagacac tcacagcaag 60
gatggagctg aaaacataac ccactctgtc ctggaggcac tgggaagcct agagaaggct 120
gtgagccaag gagggagggt cttcctttgg catgggatgg ggatgaagta aggagaggga 180
ctggaccccc tggaagctga ttcactatgg ggggaggtgt attgaagtcc tcca      234

```

```

<210> 415
<211> 217
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(217)
<223> n = A,T,C or G

```

```

<400> 415
gcataggatt aagactgagt atcttttcta cattctttta acttttctaag gggcacttct 60
caaaacacag accaggtagc aaatctccac tgctctaagg ntctcaccac cactttctca 120
cacctagcaa tagtagaatt cagtcctact tctgaggcca gaagaatggt tcagaaaaat 180
antggattat aaaaaataac aattaagaaa aataatc      217

```

```

<210> 416
<211> 213
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(213)
<223> n = A,T,C or G

```

```

<400> 416
atgcatatnt aaagganact gcctcgcttt tagaagacat ctggnctgct ctctgcatga 60
ggcacagcag taaagctctt tgattcccag aatcaagaac tctccccttc agactattac 120
cgaatgcaag gtgggttaatt gaaggccact aattgatgct caaatagaag gatattgact 180
atattggaac agatggagtc tctactacaa aag      213

```

```

<210> 417
<211> 303
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(303)
<223> n = A,T,C or G

```

```

<400> 417
nagtcttcag gcccatacag gaagttcaca ctggagagaa gtcatacata tgtactgtat 60
gtgggaaagg ctttactctg agttcaaadc ttcaagccca tcagagagtc cacactggag 120
agaagccata caaatgcaat gagtgtggga agagcttcag gagggattcc cattatcaag 180
ttcatctagt ggtccacaca ggagagaaac cctataaatg tgagatatgt gggaagggct 240
tcantcaaag ttcgtatctt caaatccatc ngaaggncca cagtatanan aaacctttta 300
agt      303

```

<210> 418
<211> 328
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(328)
<223> n = A,T,C or G

<400> 418
tttttgggcgg tgggtggggca gggacgggac angagtctca ctctgttgcc caggctggag 60
tgcacaggca tgatctcggc tcactacaac ccctgcctcc catgtccaag cgattcttgt 120
gcctcagcct tccctgtagc tagaattaca ggcacatgcc accacaccca gctagttttt 180
gtatttttag tagagacagg gtttcacat gttggccagg ctggtctcaa actcctnacc 240
tcagnggtca ggctggtctc aaactcctga cctcaagtga tctgcccacc tcagcctccc 300
aaagtgctan gattacaggc cgtgagcc 328

<210> 419
<211> 389
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(389)
<223> n = A,T,C or G

<400> 419
cctcctcaag acggcctgtg gtccgcctcc cggcaaccaa gaagcctgca gtgccatattg 60
acccctgagc catggactgg agcctgaaag gcagcgtaca ccctgctcct gatcttgctg 120
cttgtttctt ctctgtgggt ccattcatag cacagtgtgtt gcaactgaggc ttgtgcaggc 180
cgagcaaggc caagctgggt caaagagcaa ccagtcaact ctgccacggt gtgccaggca 240
ccggttctcc agccaccaac ctactcgtt cccgcaaagt gcacatcagt tcttctaccc 300
taaaggtagg accaaagggc atctgctttt ctgaagtcct ctgctctatc agccatcacg 360
tggcagccac tcnggctgtg tcgacgcgg 389

<210> 420
<211> 408
<212> DNA
<213> Homo sapiens

<400> 420
gttcctccta actcctgcca gaaacagctc tcctcaacat gagagctgca cccctcctcc 60
tggccagggc agcaagcctt agccttggtt tcttgtttct gctttttttc tggctagacc 120
gaagtgtact agccaaggag ttgaagtttg tgactttggt gtttcggcat ggagaccgaa 180
gtcccattga cacctttccc actgacccca taaaggaatc ctcatggcca caaggatttg 240
gccaactcac ccagctgggc atggagcagc attatgaact tggagagtat ataagaaaga 300
gatatagaaa attcttgaat gagtccata aacatgaaca ggtttatatt cgaagcacag 360
acgttgaccg gactttgatg aagtgctatg acaaacctgg caagcccg 408

<210> 421
<211> 352
<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(352)

<223> n = A,T,C or G

<400> 421

```
gctcaaaaat ctttttactg atnggcatgg ctacacaatc attgactatt acggaggcca 60
gaggagaatg aggcctggcc tgggagccct gtgcctacta naagcacatt agattatcca 120
ttcactgaca gaacaggtct tttttgggtc cttcttctcc accacnatat acttgcagtc 180
ctccttcttg aagattcttt ggcagttgtc tttgtcataa cccacaggtg tagaaacaag 240
gggtgcaacat gaaatttctg tttcgtagca agtgcattgc tcacaagttg gcangtctgc 300
cactccgagt ttattgggtg tttgtttcct ttgagatcca tgcatttctt gg 352
```

<210> 422

<211> 337

<212> DNA

<213> Homo sapiens

<400> 422

```
atgccaccat gctggcaatg cagcgggagg tcgaaggcct gcatatccag cccaagctgg 60
cgatgatcga cggcaaccgt tgcccgaagt tgccgatgcc agccgaagcg gtggtcaagg 120
gcatagcaa ggtgccggcg atcgggggcg cgtcaatcct ggccaaggct agccgtgatc 180
gtgaaatggc agctgtcgaa ttgatctacc cgggttatgg catcggcggg cataagggtc 240
atccgacacc ggtgcacctg gaagccttgc agcggctggg gccgacgccg attcaccgac 300
gcttcttccg ccggtacggc tggcctatga aaattat 337
```

<210> 423

<211> 310

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(310)

<223> n = A,T,C or G

<400> 423

```
gctcaaaaat ctttttactg atatggcatg gctacacaat cattgactat tagaggccag 60
aggagaatga ggcctggcct gggagccctg tgccctactan aagcncatta gattatccat 120
tactgacag aacaggtctt ttttgggtcc ttcttctcca ccacgatata cttgcagtc 180
tccttcttga agattctttg gcagttgtct ttgtcataac ccacaggtgt anaaacaagg 240
gtgcaacatg aaatttctgt ttcgtagcaa gtgcattgtc cacagttgtc aagtctgccc 300
tccgagttta 310
```

<210> 424

<211> 370

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(370)

<223> n = A,T,C or G

<400> 424

```

gctcaaaaat ctttttactg ataggcatgg ctacacaatc attgactatt agaggccaga 60
ggagaatgag gcctggcctg ggagccctgt gcctactaga agcacattag attatccatt 120
cactgacaga acaggtcttt tttgggtcct tcttctccac cacgatatac ttgcagtcct 180
ccttcttgaa gattcttttg cagttgtctt tgtcataacc cacaggtgta gaaacatcct 240
ggttgaatct cctggaactc cctcattagg tatgaaatag catgatgcat tgcataaagt 300
cacgaagggtg gcaaagatca caacgctgcc cagganaaca ttcattgtga taagcaggac 360
tccgtcgacg                                     370

```

<210> 425

<211> 216

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(216)

<223> n = A,T,C or G

<400> 425

```

aattgctatn ntttattttg ccaactcaaaa taattaccaa aaaaaaaaaa tnttaaagtga 60
taacaacnca acatcaaggn aaananaaca ggaatggntg acntngcata aatnggccga 120
anattatcca ttatnttaag gggtgacttc aggntacagc acacagacaa acatgcccag 180
gaggntntca ggaccgctcg atgtntntg aggagg                                     216

```

<210> 426

<211> 596

<212> DNA

<213> Homo sapiens

<400> 426

```

cttccagtga ggataaccct gttgccccgg gccgagggttc tccattaggc tctgattgat 60
tggcagtcag tgatggaagg gtgttctgat cattccgact gcccgaaggg tcgctggcca 120
gctctctgtt ttgctgagtt ggcagtagga cctaatttgt taattaagag tagatggtga 180
gctgtccttg tattttgatt aacctaattg ccttcccagc acgactcgga ttcagctgga 240
gacatcacgg caacttttaa tgaaatgatt tgaagggcca ttaagaggca cttcccgtta 300
ttaggcagtt catctgcact gataacttct tggcagctga gctggtcgga gctgtggccc 360
aaacgcacac ttggcttttg gttttgagat acaactctta atcttttagt catgcttgag 420
ggtggatggc cttttcagct ttaacccaat ttgcaactgcc ttggaagtgt agccaggaga 480
atacactcat atactcgtgg gcttagaggc cacagcagat gtcattggtc tactgcctga 540
gtcccgtggtg tcccatccca ggaccttcca tcggcgagta cctgggagcc cgtgct      596

```

<210> 427

<211> 107

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(107)

<223> n = A,T,C or G

<400> 427

```

gaagaattca agttaggttt attcaaaggg cttacngaga atcctanacc caggncccag 60

```

cccgggagca gccttanaga gctcctgttt gactgcccgg ctcagng

107

<210> 428

<211> 38

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(38)

<223> n = A,T,C or G

<400> 428

gaacttcena anaangactt tattcactat ttacatt

38

<210> 429

<211> 544

<212> DNA

<213> Homo sapiens

<400> 429

ctttgctgga cggaataaaa gtggacgcaa gcatgacctc ctgatgaggg cgctgcattt 60
 attgaagagc ggctgcagcc ctgcggttca gattaaaatc cgagaattgt atagacgccg 120
 atatccacga actcttgaag gactttctga tttatccaca atcaaatacat cggttttcag 180
 tttggatggt ggctcatcac ctgtagaacc tgacttgccc gtggctggaa tccactcgtt 240
 gccttccact tcagttacac ctcaactcacc atcctctcct gttggttctg tgctgcttca 300
 agataactaag cccacatttg agatgcagca gccatctccc ccaattcctc ctgtccatcc 360
 tgatgtgcag ttaaaaaatc tgccttttta tgatgtcctt gatgttctca tcaagccac 420
 gagtttagtt caaagcagta ttcagcgatt tcaagagaag ttttttattt ttgctttgac 480
 acctcaacaa gttagagaga tatgcatatc cagggatttt ttgccagggt gtaggagaga 540
 ttat 544

<210> 430

<211> 507

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(507)

<223> n = A,T,C or G

<400> 430

cttatcncaa tggggctccc aaacttggct gtgcagtgga aactccgggg gaattttgaa 60
 gaacactgac acccatcttc caccgcgaca ctctgattta attgggctgc agtgagaaca 120
 gagcatcaat ttaaaaagct gcccagaatg ttntcctggg cagcgttggt atctttgccn 180
 ccttcgtgac tttatgcaat gcatcatgct atttcatacc taatgaggga gttccaggag 240
 attcaaccag gatgtttcta cncctgtggg ttatgacaaa gacaactgcc aaagaatntt 300
 caagaaggag gactgcaagt atatcgtggt ggagaagaag gacccaaaaa agacctgttc 360
 tgtcagttaa tggataatct aatgtgcttc tagtaggcac agggctccca ggccaggcct 420
 cattctcctc tggcctctaa tagtcaatga ttgtgtagcc atgcctatca gtaaaaagat 480
 ttttgagcaa aaaaaaaaaa aaaaaaa 507

<210> 431

<211> 392

<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(392)
<223> n = A,T,C or G

```
<400> 431
gaaaattcag aatggataaa aacaaatgaa gtacaaaata tttcagattt acatagcgat 60
aaacaagaaa gcacttatca ggaggactta caaatggaag tacactctan aaccatcatc 120
tatcatggct aaatgtgaga ttagcacagc tgtattattt gtacattgca aacacctaga 180
aagagatggg aaacaaaatc ccaggagttt tgtgtgtgga gtccctgggtt ttccaacaga 240
catcattcca gcattctgag attaggngga ttggggatca ttctggagtt ggaatgttca 300
acaaaagtga tgttgtagg taaaatgtac aacttctgga tctatgcaga cattgaaggt 360
gcaatgagtc tggcttttac tctgctgttt ct 392
```

<210> 432
<211> 387
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(387)
<223> n = A,T,C or G

```
<400> 432
ggtatcanta cataatcaaa tatagctgta gtacatgttt tcattggngt agattaccac 60
aaatgcaagg caacatgtgt agatctcttg tcttattctt ttgtctataa tactgtattg 120
ngtagtccaa gctctcgga gtccagccac tngaaacat gtcctcttta gattaacctc 180
gtggacnctn ttgttgnatt gtctgaactg tagngccctg tattttgctt ctgtctgnga 240
attctgttgc ttctggggca tttccttgng atgcagagga ccaccacaca gatgacagca 300
atctgaattg ntccaatcac agctgcgatt aagacatact gaaatcgta aggaccggga 360
acaacgtata gaacactgga gtccttt 387
```

<210> 433
<211> 281
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(281)
<223> n = A,T,C or G

```
<400> 433
ttcaactagc anagaanact gcttcagggn gtgtaaaatg aaaggcttcc acgcagttat 60
ctgattaaag aacactaaga gagggacaag gctagaagcc gcaggatgtc tacactatag 120
caggcnctat ttgggttggc tggaggagct gtggaaaaca tggagagatt ggcgctggag 180
atgcgcgtgg ctattcctcn ttgntattac accagnagg ntctctgtnt gccactgggt 240
tnnaaaaccg ntatacaata atgatagaat aggacacaca t 281
```

<210> 434
<211> 484

<212> DNA

<213> Homo sapiens

<400> 434

```

ttttaaaata agcatttagt gctcagtcct tactgagtag tctttctctc ccttcctctg 60
aatttaattc tttcaacttg caatttgcaa ggattacaca tttcactgtg atgtatattg 120
tggtgcaaaa aaaaaaaagt gtctttgttt aaaattactt ggtttgtaga tccatcttgc 180
tttttcccca ttggaactag tcattaaccc atctctgaac tggtagaaaa acatctgaag 240
agctagtcta tcagcatctg acaggtgaat tggatgggtc tcagaacccat ttcacccaga 300
cagcctgttt ctatcctgtt taataaatta gtttgggttc tctacatgca taacaaaccc 360
tgctccaatc tgtcacataa aagtctgtga cttgaagttt agtcagcacc cccaccaaac 420
tttatttttc tatgtgtttt ttgcaacata tgagtgtttt gaaaataaag taccatgtc 480
ttaa

```

484

<210> 435

<211> 424

<212> DNA

<213> Homo sapiens

<400> 435

```

gcgcgcgtca gagcagggtca ctttctgcct tccacgtcct ccttcaagga agccccatgt 60
gggtagcttt caatatcgca ggttcttact cctctgcctc tataagctca aaccaccaa 120
cgatcgggca agtaaacccc ctccctcgcc gacttcggaa ctggcgagag ttcagcgag 180
atgggcctgt ggggaggggg caagatagat gagggggagc ggcatgggtc ggggtgacct 240
cttgagagaga ggaaaaggc cacaagaggg gctgccaccg cactaacgg agatggccct 300
ggtagagacc tttgggggtc tggaaacctc ggactcccca tgctctaact cccacactct 360
gctatcagaa acttaaacct gaggattttc tctgtttttc actcgcaata aattcagagc 420
aaac

```

424

<210> 436

<211> 667

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(667)

<223> n = A,T,C or G

<400> 436

```

accttgggaa nactctcaca atataaaggg tcgtagactt tactccaaat tccaaaaagg 60
tcctggccat gtaatcctga aagttttccc aaggtagcta taaaatcctt ataagggtgc 120
agcctcttct ggaattcctc tgatttcaaa gtctcactct caagttcttg aaaacgaggg 180
cagttcctga aaggcaggta tagcaactga tcttcagaaa gaggaactgt gtgcaccggg 240
atgggctgcc agagtaggat aggattccag atgctgacac cttctggggg aaacagggct 300
gccaggtttg tcatagcact catcaaagtc cggtcacagt ctgtgcttcg aatataaacc 360
tgttcatgtt tataggactc attcaagaat tttctatatc tctttcttat atactctcca 420
agttcataat gctgctccat gccagctggg gtgagttggc caaatccttg tggccatgag 480
gattccttta tggggtcagt gggaaagggt tcaatgggac ttcgggtctc atgccgaaac 540
accaaagtca caaacttcaa ctcttggtc agtacacttc ggtctagcca gaaaaaaagc 600
agaaacaaga agccaaggct aaggcttgct gccctgccag gaggaggggt gcagctctca 660
tgttgag

```

667

<210> 437

<211> 693

<212> DNA

<213> Homo sapiens

<400> 437

```

ctacgtctca accctcattt ttaggtaagg aatcttaagt ccaaagatat taagtgactc 60
acacagccag gtaaggaaag ctggattggc acactaggac tctaccatac cgggttttgt 120
taaagctcag gttaggaggc tgataagctt ggaaggaaact tcagacagct ttttcagatc 180
ataaaagata attcttagcc catgttcttc tccagagcag acctgaaatg acagcacagc 240
aggtactcct ctattttcac ccctcttgct tctactctct ggcagtcaga cctgtgggag 300
gccatgggag aaagcagctc tctggatggt tgtacagatc atggactatt ctctgtggac 360
catttctcca ggttacccta ggtgtcacta ttgggggggac agccagcatc tttagctttc 420
atttgagttt ctgtctgtct tcagtagagg aaacttttgc tcttcacact tcacatctga 480
acacctaact gctgttgctc ctgaggtggt gaaagacaga tatagagctt acagtattta 540
tcctatttct aggcactgag ggctgtgggg taccttgtgg tgccaaaaca gatcctgttt 600
taaggacatg ttgcttcaga gatgtctgta actatctggg ggctctgttg gctctttacc 660
ctgcatcatg tgctctcttg gctgaaaatg acc                                     693

```

<210> 438

<211> 360

<212> DNA

<213> Homo sapiens

<400> 438

```

ctgcttatca caatgaatgt tctcctgggc agcgttgtga tctttgccac cttegtgact 60
ttatgcaatg catcatgcta tttcatacct aatgagggag ttccaggaga ttcaaccagg 120
atgtttctac acctgtgggt tatgacaaag acaactgccca aagaatcttc aagaaggagg 180
actgcaagta tatctggtgg agaagaagga cccaaaaaag acctgttctg tcagtgaatg 240
gataatctaa tgtgcttcta gtaggcacag ggctcccagc ccaggcctca ttctcctctg 300
gcctctaata gtcaataatt gtgtagccat gcctatcagt aaaaagattt ttgagcaaac 360

```

<210> 439

<211> 431

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(431)

<223> n = A,T,C or G

<400> 439

```

gttcctnnta actcctgccca gaaacagctc tctcaacat gagagctgca cccctcctcc 60
tggccagggc agcaagcctt agccttggct tcttgtttct gctttttttc tggctagacc 120
gaagtgtact agccaaggag ttgaagtttg tgactttggt gtttcggcat ggagaccgaa 180
gtcccattga cacctttccc actgacccca taaaggaatc ctcatggcca caaggatttg 240
gccaaactcac ccagctgggc atggagcagc attatgaact tggagagtat ataagaaaga 300
gatatagaaa attcttgaat gagtctata aacatgaaca ggtttatatt cgaagcacag 360
acgttgaccg gactttgatg agtgctatga caaacctggc agcccgtcga cgcggccgcg 420
aatttagtag t                                     431

```

<210> 440

<211> 523

<212> DNA

<213> Homo sapiens

<400> 440

```
agagataaag cttaggtcaa agttcataga gttcccatga actatatgac tggccacaca 60
ggatcttttg tatttaagga ttctgagatt ttgcttgagc aggattagat aaggctgttc 120
tttaaagtgc tgaaatggaa cagatttcaa aaaaaaaccc cacaatctag ggtgggaaca 180
aggaaggaaa gatgtgaata ggctgatggg caaaaaacca atttaccat cagttccagc 240
cttctctcaa ggagaggcaa agaaaggaga tacagtggag acatctggaa agttttctcc 300
actggaaaac tgctactatc tgtttttata tttctgttaa aatatatgag gctacagaac 360
taaaaattaa aacctctttg tgtcccttgg tcctggaaca tttatgttcc ttttaaagaa 420
acaaaaatca aactttacag aaagatttga tgtatgtaac acatatagca gctcttgaag 480
tatatatatc atagcaaata agtcatctga tgagaacaag cta 523
```

<210> 441

<211> 430

<212> DNA

<213> Homo sapiens

<400> 441

```
gttcctccta actcctgcc aaaaacagctc tcctcaacat gagagctgca cccctcctcc 60
tggccagggc agcaagcctt agccttgggt tcttgtttct gcttttttcc tggctagacc 120
gaagtgtact agccaaggag ttgaagtttg tgactttggg gtttcggcat ggagaccgaa 180
gtcccattga cacctttccc actgacccca taaaggaatc ctcatggcca caaggatttg 240
gccaaactcac ccagctgggc atggagcagc attatgaact tggagagtat ataagaaaga 300
gatatagaaa attccttgaat gagtcctata aacatgaaca ggtttatatt cgaagcacag 360
acgttgaccg gactttgatg agtgctatga caaacctggc agcccgtcga cgcggccgcg 420
aatttagtag 430
```

<210> 442

<211> 362

<212> DNA

<213> Homo sapiens

<400> 442

```
ctaaggaatt agtagtggtc ccatacacttg tttggagtgt gctattctaa aagattttga 60
tttcctggaa tgacaattat attttaactt tgggtggggga aagagttata ggaccacagt 120
cttcacttct gatacttgta aattaatctt ttattgcact tgttttgacc attaagctat 180
atgttttagaa atgggtcattt tacggaaaaa ttagaaaaat tctgataata gtgcagaata 240
aatgaattaa tgttttactt aatttatatt gaactgtcaa tgacaaataa aaattctttt 300
tgattatatt ttgttttcat ttaccagaat aaaaactaag aattaaaagt ttgattacag 360
tc 362
```

<210> 443

<211> 624

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(624)

<223> n = A,T,C or G

<400> 443

```
tttttttttt gcaacacaat atacatcaca gtgaaatgtg taatccttgc aaattgcaag 60
ttgaaagaat taaattcaga ggaggggaga gaaagagtac tcagtaggga ctgagcacta 120
aatgcttatt ttaaaagaaa tgtaaagagc agaaagcaat tcaggctacc ctgccttttg 180
tgctgggctag tactccgggc ggtgtcagca gcacgtggca ttgaacattg caatgtggag 240
```

```

cccaaaccac agaaaatggg gtgaaattgg ccaactttct attaacttgg ctccctgttt 300
tataaaatat tgtgaataat atcacctact tcaaagggca gttatgagggc ttaaataaac 360
taacgcctac aaaacactta aacatagata acataggtgc aagtactatg tatctggtac 420
atggtaaaca tccttattat taaagtcaac gctaaaatga atgtgtgtgc atatgctaata 480
agtacagaga gagggcactt aaaccaacta agggcctgga ggggaagggtt cctggaaaga 540
ngatgcttgt gctgggtcca aatcttggtc tactatgacc ttggccaaat tatttaaact 600
ttgtccctat ctgctaaaca gatc 624

```

<210> 444

<211> 425

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(425)

<223> n = A,T,C or G

<400> 444

```

gcacatcatt nntcttgcatt tctttgagaa taagaagatc agtaaatagt tcagaagtgg 60
gaagctttgt ccaggcctgt gtgtgaaccc aatgttttgc ttagaaatag aacaagtaag 120
ttcattgcta tagcataaca caaaatttgc ataagtggtg gtcagcaaat ccttgaatgc 180
tgcttaatat gagaggttgg taaaatcctt tgtgcaacac tctaactccc tgaatgtttt 240
gctgtgctgg gacctgtgca tgccagacaa ggccaagctg gctgaaagag caaccagcca 300
cctctgcaat ctgccacctc ctgctggcag gatttgtttt tgcacctctg gaagagccaa 360
ggaggcacca gggcataagt gtagtagact atggtcgacg cggccgcgaa tttagtagta 420
gtaga 425

```

<210> 445

<211> 414

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(414)

<223> n = A,T,C or G

<400> 445

```

catgtttatg nttttggatt actttgggca cctagtgttt ctaaatecgtc tatcattctt 60
ttctgttttt caaaagcaga gatggccaga gtctcaacaa actgtatctt caagtctttg 120
tgaaattctt tgcattgtggc agattattgg atgtagtttc ctttaactag catataaatc 180
tggtgtgttt cagataaatg aacagcaaaa tgtggtggaa ttaccatttg gaacattgtg 240
aatgaaaaat tgtgtctcta gattatgtaa caaataacta tttcctaacc attgatcttt 300
ggatttttat aatcctactc acaaatgact aggcttctcc tcttgtattt tgaagcagtg 360
tggtgtgctg attgataaaa aaaaaaaaaa tgcacgcggc cgcgaattta gtag 414

```

<210> 446

<211> 631

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(631)

<223> n = A,T,C or G

<400> 446

```

acaaattaga anaaagtgcc agagaacacc acataccttg tccggaacat tacaatggct 60
tctgcatgca tgggaagtgt gagcattcta tcaatatgca ggagccatct tgcaggtgtg 120
atgctgggta tactggacaa cactgtgaaa aaaaggacta cagtgttcta tacgttggtc 180
ccggtcctgt acgatttcag tatgtcttaa tcgcagctgt gattggaaca attcagattg 240
ctgtcatctg tgtgggtggc ctctgcatca caagggccaa actttaggta atagcattgg 300
actgagattt gtaaactttc caaccttcca ggaaatgccc cagaagcaac agaattcaca 360
gacagaagca aaatacaggg cactacagtt cagacaatac aacaagagcg tccacgaggt 420
taatctaaag ggagcatgtt tcacagtggc tggactaccg agagcttgga ctacacaata 480
cagtattata gacaaaagaa taagacaaga gatctacaca tgttgccctg catttggtgt 540
aatctacacc aatgaaaaca tgtactacag ctatatgtga ttatgtatgg atatatttga 600
aatagtatac attgtcttga tgttttttct g                                     631

```

<210> 447

<211> 585

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(585)

<223> n = A,T,C or G

<400> 447

```

ccttgggaaa antntcacia tataaagggt cgtagacttt actccaaatt ccaaaaagggt 60
cctggccatg taatcctgaa agttttccca aggtagctat aaaatcctta taagggtgca 120
gcctcttctg gaattcctct gatttcaaag tctcactctc aagttcttga aaacgagggc 180
agttcctgaa aggcaggtat agcaactgat cttcagaaag aggaactgtg tgcaccggga 240
tgggctgcca gagtaggata ggattccaga tgctgacacc ttctggggga aacagggtctg 300
ccaggtttgt catagcactc atcaaagtcc ggtcaacgtc tgtgcttcga atataaacct 360
gttcattgtt ataggactca ttcaagaatt ttctatatct ctttcttata tactctccaa 420
gttcataatg ctgctccatg cccagctggg tgagttggcc aaatccttgt ggccatgagg 480
attcctttat ggggtcagtg ggaaagggtg caatgggact tcggtctcca tgccgaaaca 540
ccaaagtcac aaacttcaac tccttggcta gtacacttcg gtcta                                     585

```

<210> 448

<211> 93

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(93)

<223> n = A,T,C or G

<400> 448

```

tgctcgtggg tcattctgan ncccgaactg accntgccag ccctgccgan gggccnccat 60
ggctccctag tgccctggag agganggggc tag                                     93

```

<210> 449

<211> 706

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(706)

<223> n = A,T,C or G

<400> 449

```
ccaagttcat gctntgtgct ggacgctgga caggggggcaa aagcnnttgc tcgtgggtca 60
ttctgancac cgaactgacc atgccagccc tgccgatggt cctccatggc tccctagtgc 120
cctggagagg aggtgtctag tcagagagta gtccctggaag gtggcctctg ngaggagcca 180
cggggacagc atcctgcaga tggtcgggcg cgtcccatc gccattcagg ctgcgcaact 240
gttgggaagg gcgatcggtg cgggcctctt cgctattacg ccagctggcg aaaggggggat 300
gtgctgcaag gcgattaagt tgggtaacgc caggggttttc ccagtcncga cgttgtaaaa 360
cgacggccag tgaattgaat ttaggtgacn ctatagaaga gctatgacgt cgcattgcacg 420
cgtacgtaag cttggatcct ctagagcggc cgcctactac tactaaattc gcggcgcgct 480
cgacgtggga tccnactga gagagtggag agtgacatgt gctggacnct gtccatgaag 540
cactgagcag aagctggagg cacaacgcnc cagacactca cagctactca ggaggctgag 600
aacaggttga acctgggagg tggaggttgc aatgagctga gatcaggccn ctgcncacca 660
gcatggatga cagagtgaaa ctccatctta aaaaaaaaaa aaaaaa 706
```

<210> 450

<211> 493

<212> DNA

<213> Homo sapiens

<400> 450

```
gagacggagt gtcactctgt tgcccaggct ggagtgcagc aagacactgt ctaagaaaaa 60
acagttttta aaggtaaaac aacataaaaa gaaatatect atagtggaaa taagagagtc 120
aaatgaggct gagaacttta caaagggatc ttacagacat gtcgccaata tcaactgcatg 180
agcctaagta taagaacaac ctttggggag aaaccatcat ttgacagtga ggtacaattc 240
caagtcagggt agtgaatagg gtggaattaa actcaaatta atcctgccag ctgaaacgca 300
agagacactg tcagagagtt aaaaagtgag ttctatccat gaggtgattc cacagtcttc 360
tcaagtcaac acatctgtga actcacagac caagttctta aaccactgtt caaactctgc 420
tacacatcag aatcacctgg agagctttac aaactcccat tgccgagggt cgacgcggcc 480
gcgaatttag tag 493
```

<210> 451

<211> 501

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(501)

<223> n = A,T,C or G

<400> 451

```
gggcgcgtcc cattcgccat tcaggctgcg caactgttgg gaagggcgat cgggtgcgggc 60
ctcttcgcta ttacgccagc tggcgaaagg gggatgtgct gcaaggcgat taagttgggt 120
aacgccaggg ttttcccagt cncgacgttg taaaacgacg gccagtgaat tgaatttagg 180
tgacnctata gaagagctat gacgtcgcat gcacgcgtac gtaagcttgg atcctctaga 240
gcggccgcct actactacta aattcgcggc cgcgtcgacg tgggatccnc actgagagag 300
tggagagtga catgtgctgg acnctgtcca tgaagcactg agcagaagct ggaggcacia 360
cgcncacagc actcacagct actcaggagg ctgagaacag gttgaacctg ggaggtggag 420
gttgcaatga gctgagatca ggccnctgcn ccccagcatg gatgacagag tgaaactcca 480
```

tcttaaaaaa aaaaaaaaaa a

501

<210> 452

<211> 51

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(51)

<223> n = A,T,C or G

<400> 452

agacgggtttc accntttacaa cnccttttag gatgggnntt ggggagcaag c

51

<210> 453

<211> 317

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(317)

<223> n = A,T,C or G

<400> 453

tacatcttgc tttttcccca ttggaactag tcattaaccc atctctgaac tggtagaaaa 60
 acatctgaag agctagtcta tcagcatctg gcaagtgaat tggatgggtc tcagaaccat 120
 ttcacccana cagcctgttt ctatcctgtt taataaatta gtttgggttc tctacatgca 180
 taacaaaccc tgctccaatc tgtcacataa aagtctgtga cttgaagttt antcagcacc 240
 cccaccaaac tttatttttc tatgtgtttt ttgcaacata tgagtgtttt gaaaataagg 300
 taccatgtc tttatta 317

<210> 454

<211> 231

<212> DNA

<213> Homo sapiens

<400> 454

ttcgaggtag aatcaactct cagagtgtag tttccttcta tagatgagtc agcattaata 60
 taagccacgc cagctcttg aaggagtctt gaattctcct ctgctcactc agtagaacca 120
 agaagaccaa attcttctgc atcccagctt gcaaacaaaa ttgttcttct aggtctccac 180
 ccttcctttt tcagtgttcc aaagctcctc acaatttcat gaacaacagc t 231

<210> 455

<211> 231

<212> DNA

<213> Homo sapiens

<400> 455

taccaaagag ggcataataa tcagtctcac agtaggggtc accatcctcc aagtgaaaaa 60
 cattgttccg aatgggcttt ccacaggcta cacacacaaa acaggaaaca tgccaagttt 120
 gtttcaacgc attgatgact tctccaagga tcttcctttg gcacgacca cattcagggg 180
 caaagaattt ctcatagcac agctcacaat acagggtcct tttctcctct a 231

<210> 456
<211> 231
<212> DNA
<213> Homo sapiens

<400> 456
ttggcaggta cccttacaaa gaagacacca taccttatgc gttattaggt ggaataatca 60
ttccattcag tattatcggt attattcttg gagaaaccct gtctgtttac tgtaaccttt 120
tgcactcaaa ttccctttatc aggaataact acatagccac tatttacaaa gccattggaa 180
cctttttatt tgggtgcagct gctagtcagt ccctgactga cattgccaag t 231

<210> 457
<211> 231
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(231)
<223> n = A,T,C or G

<400> 457
cgaggtagcc aggggtctga aaatctctnn tttantagtc gatagcaaaa ttgttcatca 60
gcattcctta atatgatctt gctataatta gatttttctc cattagagtt catacagttt 120
tatttgattt tattagcaat ctctttcaga agacccttga gatcattaag ctttgtatcc 180
agttgtctaa atcgatgcct catttcctct gaggtgtcgc tggcttttgc g 231

<210> 458
<211> 231
<212> DNA
<213> Homo sapiens

<400> 458
aggctctggt ccccccactt ccaactccct ctactctctc taggactggg ctgggccaag 60
agaagagggg tgggttaggga agccgttgag acctgaagcc ccaccctcta ccttccttca 120
acaccctaac cttgggtaac agcattttgga attatcattt gggatgagta gaatttccaa 180
ggcctctggg taggcatttt gggggggccag accccaggag aagaagattc t 231

<210> 459
<211> 231
<212> DNA
<213> Homo sapiens

<400> 459
ggtaccgagg ctcgctgaca cagagaaacc ccaacgcgag gaaaggaatg gccagccaca 60
ccttcgcgaa acctgtggtg gccaccagt cctaacggga caggacagag agacagagca 120
gccctgcact gttttccctc caccacagcc atcctgtccc tcattggctc tgtgctttcc 180
actatacaca gtcaccgtcc caatgagaaa caagaaggag caccctccac a 231

<210> 460
<211> 231
<212> DNA
<213> Homo sapiens

<400> 460

```
gcaggtataa catgctgcaa caacagatgt gactaggaac ggccggtgac atggggaggg 60
cctatcaccc tattcttggg ggctgcttct tcacagtgat catgaagcct agcagcaaat 120
cccacctccc cacacgcaca cggccagcct ggagcccaca gaagggtcct cctgcagcca 180
gtggagcttg gtccagcctc cagtccaccc ctaccaggct taaggataga a 231
```

<210> 461

<211> 231

<212> DNA

<213> Homo sapiens

<400> 461

```
cgaggtttga gaagctctaa tgtgcagggg agccgagaag caggcggcct agggaggggtc 60
gcgtgtgctc cagaagagtg tgtgcatgcc agaggggaaa caggcgcctg tgtgtcctgg 120
gtggggttca gtgaggagtg ggaaattggg tcagcagaac caagccgttg ggtgaataag 180
agggggattc catggcactg atagagccct atagtttcag agctgggaat t 231
```

<210> 462

<211> 231

<212> DNA

<213> Homo sapiens

<400> 462

```
aggtaccctc attgtagcca tgggaaaatt gatgttcagt ggggatcagt gaattaaatg 60
gggtcatgca agtataaaaa ttaaaaaaaaa aagacttcat gccaatctc atatgatgtg 120
gaagaactgt tagagagacc aacagggtag tgggttagag atttccagag tcttacattt 180
tctagaggag gtatttaatt tcttctcact catccagtgt tgtatttagg a 231
```

<210> 463

<211> 231

<212> DNA

<213> Homo sapiens

<400> 463

```
tactccagcc tgggtgacaga gcgagaccct atcaccgccc cccacccccc caaaaaaaaa 60
actgagtaga caggtgtcct cttggcatgg taagtcttaa gtcccctccc agatctgtga 120
catttgacag gtgtcttttc ctctggacct cgggtgtccc atctgagtga gaaaaggcag 180
tggggaggtg gatcttccag tcgaagcggg atagaagccc gtgtgaaaag c 231
```

<210> 464

<211> 231

<212> DNA

<213> Homo sapiens

<400> 464

```
gtactctaag attttatcta agttgccttt tctgggtggg aaagttaaac cttagtgtgact 60
aaggacatca catatgaaga atgtttaagt tggaggtggc aacgtgaatt gcaaacaggg 120
cctgtctcag tgactgtgtg cctgtagtcc cagctactcg ggagtctgtg tgaggccagg 180
ggtgccagcg caccagctag atgctctgta acttctaggg cccattttcc c 231
```

<210> 465

<211> 231

<212> DNA

<213> Homo sapiens

<400> 465


```

catgttggtg tagctgtggt aatgctggct gcatctcaga caggggtaac ttcagctcct 60
gtggcaaatt agcaacaaat tctgacatca tatttatggt ttctgtatct ttgttgatga 120
aggatggcac aatTTTTtgc tgtgttcata atatactcag attagttcag ctccatcaga 180
taaactggag acatgcagga cattagggta gtgttgtagc tctggtaatg a 231

```

<210> 466

<211> 231

<212> DNA

<213> Homo sapiens

<400> 466

```

caggtacctc ttccattggt atactgtgct agcaagcatg ctctccgggg tttttttaat 60
ggccttcgaa cagaacttgc cacataccca ggtataatag tttctaacat ttgcccagga 120
cctgtgcaat caaatattgt ggagaattcc cttagctggag aagtcacaaa gactataggc 180
aataatggag accagtccca caagatgaca accagtcggt gtgtgcggt g 231

```

<210> 467

<211> 311

<212> DNA

<213> Homo sapiens

<400> 467

```

gtacaccctg gcacagtcca atctgaactg gttcggcact catctttcat gagatggatg 60
tggcggcttt tctccttttt catcaagact cctcagcagg gagccagac cagcctgcac 120
tgtgccttaa cagaaggctc tgagattcta agtgggaatc atttcagtga ctgtcatgtg 180
gcatgggtct ctgcccaagc tcgtaatgag actatagcaa ggcggctgtg ggacgtcagt 240
tgtgacctgc tgggcctccc aatagactaa caggcagtg cagttggacc caagagaaga 300
ctgcagcaga c 311

```

<210> 468

<211> 3112

<212> DNA

<213> Homo sapiens

<400> 468

```

cattgtgttg ggagaaaaac agaggggaga tttgtgtggc tgcagccgag ggagaccagg 60
aagatctgca tgggtgggaag gacctgatga tacagagttt gataggagac aattaaaggc 120
tggaaaggcac tggatgcctg atgatgaagt ggactttcaa actggggcac tactgaaacg 180
atgggatggc cagagacaca ggagatgagt tggagcaagc tcaataacaa agtgggtcaa 240
cgaggacttg gaattgcatg gagctggagc tgaagtttag cccaattgtt tactagttaga 300
gtgaatgtgg atgattggat gatcatttct catctctgag cctcaggttc cccatccata 360
aaatgggata cacagtatga tctataaagt gggatatagt atgatctact tcaactgggtt 420
at ttgaaggga tgaattgaga taatttattt cagggtgccta gaacaatgcc cagattagta 480
catttggtgg aactgagaaa tggcataaca ccaaatttaa tatatgtcag atgttactat 540
gattatcatt caatctcata gttttgtcat ggcccaattt atcctcactt gtgcctcaac 600
aaattgaact gttaacaaag gaatctctgg tcctgggtaa tggctgagca ccaactgagca 660
tttccattcc agttggcttc ttgggtttgc tagctgcata actagtcata ttaaataaat 720
gaagttttta catttctcca gtgatttttt tatctcacct ttgaagatac tatgttatgt 780
gattaaataa agaacttgag aagaacaggt ttcattaaac ataaaatcaa tgtagacgca 840
aat tttctggt atgggcaata cttatgttca caggaaatgc tttaaaatat gcagaagata 900
attaaatggc aatggacaaa gtgaaaaact tagacttttt tttttttttt ggaagtatct 960
ggatgttcct tagtcactta aaggagaact gaaaaatagc agtgagttcc acataatcca 1020
acctgtgaga ttaaggctct ttgtggggaa ggacaaagat ctgtaaattt acagtttcct 1080
tccaaagcca acgtcgaatt ttgaaacata tcaaagctct tcttcaagac aaataatcta 1140
tagtacatct ttcttatggg atgcacttat gaaaaatggg ggctgtcaac atctagtcac 1200

```

```

tttagctctc aaaatgggtc attttaagag aaagtttttag aatctcatat ttattcctgt 1260
ggaaggacag cattgtggct tggactttat aaggctcttta ttcaactaaa taggtgagaa 1320
ataagaaagg ctgctgactt taccatctga ggccacacat ctgctgaaat ggagataatt 1380
aacatcacta gaaacagcaa gatgacaata taatgtctaa gtagtgacat gtttttgcac 1440
atttccagcc cctttaaata tccacacaca caggaagcac aaaaggaagc acagagatcc 1500
ctgggagaaa tgcccggccg ccatcttggg tcatcgatga gcctcgccct gtgcctgggtc 1560
ccgcttgtga ggggaaggaca ttagaaaaatg aattgatgtg ttccttaaag gatgggcagg 1620
aaaacagatc ctggttggga tatttatttg aacgggatta cagatttgaa atgaagtcac 1680
aaagtgagca ttaccaatga gaggaaaaaca gacgagaaaa tcttgatggc ttcacaagac 1740
atgcaacaaa caaaatggaa tactgtgatg acatgaggca gccaaagctgg ggaggagata 1800
accacggggc agagggtcag gattctggcc ctgctgccta aactgtgcgt tcataaccaa 1860
atcatttcat atttctaacc ctcaaaacaa agctgttgta atatctgatc tctacggttc 1920
cttctggggc caacattctc catatatcca gccacactca tttttaatat ttagttccca 1980
gatctgtact gtgaccttct taccctgtag aataacatta ctcattttgt tcaaagaccc 2040
ttcgtgttgc tgcctaatat gtagctgact gtttttccca aggagtgttc tggcccaggg 2100
gatctgtgaa caggctggga agcatctcaa gatctttcca ggggtatact tactagcaca 2160
cagcatgatc attacggagt gaattatcta atcaacatca tcttcagtgt ctttgcccat 2220
actgaaattc atttcccact tttgtgcccc ttctcaagac ctcaaaatgt cattccatta 2280
atatcacagg attaactttt ttttttaacc tggaagaatt caatgttaca tgcagctatg 2340
ggaatttaac tacatatattt gttttccagt gcaaagatga ctaagtcctt tatccctccc 2400
ctttgtttga ttttttttcc agtataaagt taaaatgctt agccttgtag tgaggctgta 2460
tacagccaca gcctctcccc atccctccag ccttatctgt catcaccatc aaccctcccc 2520
atgcacctaa acaaaatcta acttgaattt ccttgaacat gtcaggcata cattattcct 2580
tctgcctgag aagctcttcc ttgtctctta aatctagaat gatgtaaagt tttgaataag 2640
ttgactatct tacttcatgc aaagaaggga cacatatgag attcatcatc acatgagaca 2700
gcaaatacta aaagtgtaat ttgattataa gagtttagat aaatatatga aatgcaagag 2760
ccacagaggg aatgtttatg gggcacgttt gtaagcctgg gatgtgaagc aaaggcaggg 2820
aacctcatag tatcttatat aatatacttc atttctctat ctctatcaca atatccaaca 2880
agcttttcac agaattcatg cagtgcaaat ccccaaaggt aacctttatc catttcatgg 2940
tgagtgcgct ttagaatttt ggcaaatcat actggctact tatctcaact ttgagatgtg 3000
tttgtccttg tagttaattg aaagaaatag ggcactcttg tgagccactt taggggtcac 3060
tcctggcaat aaagaattta caaagagcaa aaaaaaaaaa aaaaaaaaaa aa 3112

```

<210> 469

<211> 2229

<212> DNA

<213> Homo sapiens

<400> 469

```

agctctttgt aaattcttta ttgccaggag tgaaccctaa agtggctcac aagagtgccc 60
tatttctttc aattaactac aaggacaaac acatctcaaa gttgagataa gtgaccagta 120
tgatttgcca aaattctaaa gcgcactcac catgaaatgg ataaaggta cctttgggga 180
tttgactgac atgaattctg tgaaaagctt gttggatatt gtgatagaga tagagaaatg 240
aagtatatta tataagatac tatgaggttc cctgcctttg cttcacatcc caggcttaca 300
aacgtgcccc ataaacattc cctctgtggc tcttgcattt catatattta tctaaactct 360
tataatcaaa tacactttta gtatttgctg tctcatgtga tgatgaatct catatgtgtc 420
ccttctttgc atgaagtaag atagtcaact tattcaaaac tttacatcat tctagattta 480
agagacaagg aagagcttct caggcagaag gaataatgta tgcctgacat gttcaaggaa 540
ttacaagtta gattttgttt aggtgcatgg gaggggttga tgggtgatgac agataaggct 600
ggagggatgg ggagaggctg tggctgtata cagcctcagt acaaggctaa gcattttaac 660
tttatactgg aaaaaaaaaa aaacaaaggg gagggataaa ggacttagtc atctttgcac 720
tggaacaaac aatatgtaat taaattccca tagctgcatg taacattgaa ttcttccagg 780
ttaaaaaaaaa agttaatcct gtgatattaa tggaatgaca ttttgaggtc ttgagaatgg 840
gcacaaaagt gggaaatgaa tttcagtatg ggcaagaca ctgaggatga tgttgattag 900
ataattcact ccgtaatgat catgctgtgt gctagtaagt ataaccctgg aaagatcttg 960

```

```

agatgcttcc cagcctgttc acagatcccc tgggccagaa cactccttag gaaaaacagt 1020
cagctacata ttaggcagca acacgaaggg tctttgaaca aaatgagtaa tgttattcta 1080
cagtgtagaa aggtcacagt acagatctgg gaactaaata ttaaaaatga gtgtggctgg 1140
atatatggag aatgttgggc ccagaaggaa ccgtagagat cagatattac aacagctttg 1200
ttttgagggg tagaaatatg aaatgatttg gttatgaacg cacagtttag gcagcagggc 1260
cagaatcctg accctctgcc ccgtggttat ctccctccca gcttggctgc ctcatgtcat 1320
cacagtattc cattttgttt gttgcatgtc ttgtgaagcc atcaagattt tctcgtctgt 1380
tttcctctca ttggtaatgc tcactttgtg acttcatttc aaatctgtaa tcccgttcaa 1440
ataaatatcc acaacaggat ctgttttctt gcccatcctt taaggaacac atcaattcat 1500
tttctaattg ccttccctca caagcgggac caggcacagg gcgaggctca tcgatgaccc 1560
aagatggcgg ccgggcattt ctcccaggga tctctgtgct tctttttgtg ctctctgtgt 1620
gtgtggatat ttaaaggggc tggaaatgtg caaaaacatg tcactactta gacattatat 1680
tgtcatcttg ctgtttctag tgatgttaat tatctccatt tcagcagatg tgtggcctca 1740
gatggtaaaag tcagcagcct ttcttatttc tcacctggaa atacatacga ccatttgagg 1800
agacaaatgg caaggtgtca gcataccctg aacttgagtt gagagctaca cacaattata 1860
ttggtttccg agcatcacia acacctctc tgtttcttca ctgggcacag aattttaata 1920
cttatttcag tgggctgttg gcaggaacaa atgaagcaat ctacataaag tcaactagtc 1980
agtgcctgac acacaccatt ctcttgaggt cccctctaga gatcccacag gtcatatgac 2040
ttcttgggga gcagtggctc acacctgtaa tcccagcact ttgggaggct gaggcagggtg 2100
ggtcacctga ggtcaggagt tcaagaccag cctggccaat atggtgaaac cccatctcta 2160
ctaaaaatac aaaaattagc tgggcgtgct ggtgcatgcc tgtaatccca gcccacacac 2220
aatggaatt                                     2229

```

<210> 470

<211> 2426

<212> DNA

<213> Homo sapiens

<400> 470

```

gtaaattctt tattgccagg agtgaaccct aaagtggctc acaagagtgc cctatttctt 60
tcaattaact acaaggacaa acacatctca aagttgagat aagtgaccag tatgatttgc 120
caaaattcta aagcgactc accatgaaat ggataaaggt tacctttggg gatattgcact 180
gcatgaattc tgtgaaaagc ttgttgata ttgtgataga gatagagaaa tgaagtatat 240
tatataagat actatgaggt tccctgcctt tgcttcacat cccaggctta caaacgtgcc 300
ccataaacat tccctctgtg gctcttgcct ttcatatatt tatctaaact cttataatca 360
aattacactt ttagtatttg ctgtctcatg tgatgatgaa tctcatatgt gtcccttctt 420
tgcataagat aagatagtc acttattcaa aactttacat cattctagat ttaagagaca 480
aggaagagct tctcaggcag aaggaataat gtatgcctga catgttcaag gaattacaag 540
ttagattttg tttaggtgca tgggaggggt tgatggtgat gacagataag gctggaggga 600
tggggagagg ctgtggctgt atacagcctc agtacaaggc taagcatttt aactttatac 660
tggaaaaaaa atcaaacaaa ggggagggat aaaggactta gtcacttttg cactggaaaa 720
caaaatatgt aattaaattc ccatagctgc atgtaacatt gaattcttcc aggttaaaaa 780
aaaaagttaa tcctgtgata ttaatggaat gacattttga ggtcttgaga atgggcacaa 840
aagtgggaaa tgaatttcag tatgggcaaa gacactgagg atgatgttga ttagataatt 900
cactccgtaa tgatcatgct gtgtgctagt aagtataacc ctggaaagat cttgagatgc 960
ttcccagcct gttcacagat cccctgggcc agaacactcc ttaggaaaaa cagtcagcta 1020
catattaggg agcaacacga aggttctttg aacaaaatga gtaatgttat tctacagtgt 1080
agaaaggtca cagtacagat ctgggaacta aatattaaaa atgagtgtgg ctggatatat 1140
ggagaatgtt gggcccagaa ggaaccgtag agatcagata ttacaacagc tttgttttga 1200
gggttagaaa tatgaaatga tttggttatg aacgcacagt ttaggcagca gggccagaat 1260
cctgaccctc tgccccgtgg ttatctctc cccagcttgg ctgcctcatg tcatcacagt 1320
attccatttt gtttggttga tgtcttgtga agccatcaag attttctcgt ctgttttctt 1380
ctcattggta atgctcactt tgtgacttca tttcaaactc gtaatcccgt tcaaataaat 1440
atccacaaca ggatctgttt tccctgccc atcttaagga acacatcaat tcattttcta 1500
atgtccttcc ctcacaagcg ggaccaggca cagggcgagg ctcacgatg acccaagatg 1560

```

```

gcggccgggc atttctccca gggatctctg tgccttcttt tgtgcttcct gtgtgtgtgg 1620
atattttaaag gggctggaaa tgtgcaaaaa catgtcacta cttagacatt atattgtcat 1680
cttgctgttt ctagtgatgt taattatctc catttcagca gatgtgtggc ctcagatggg 1740
aaagtcagca gcctttctta tttctcacct ggaaatacat acgaccattt gaggagacaa 1800
atggcaaggt gtcagcatac cctgaacttg agttgagagc tacacacaat attattggtt 1860
tccgagcatc acaaacaccc tctctgtttc ttcactgggc acagaatttt aatacttatt 1920
tcagtgggct gttggcagga acaaatgaag caatctacat aaagtcacta gtgcagtggc 1980
tgacacacac cattctcttg aggtccctc tagagatccc acaggtcata tgacttcttg 2040
gggagcagtg gtcacacac gtaatcccag cactttggga ggctgaggca ggtgggtcac 2100
ctgaggtcag gagttcaaga ccagcctggc caatatggtg aaaccccatc tctactaaaa 2160
atacaaaaat tagctgggcg tgctggtgca tgcctgtaat cccagctact tgggaggctg 2220
aggcaggaga attgctggaa catgggaggc ggaggttgca gtgagctgta attgtgccat 2280
tgactcga cctgggcgac agagtggaac tctgtttcca aaaaacaaac aaacaaaaaa 2340
ggcatagtca gatacaacgt ggggtgggatg tgtaaataga agcaggatat aaagggcatg 2400
gggtgacggg tttgccccac acaatg

```

2426

<210> 471

<211> 812

<212> DNA

<213> Homo sapiens

<400> 471

```

gaacaaaatg agtaatgtta ttctacagt tagaaaggc acagtacaga tctgggaact 60
aaatattaaa aatgagtgtg gctggatata tggagaatgt tgggccaga aggaaccgta 120
gagatcagat attacaacag ctttggtttg agggtagaa atatgaaatg atttggttat 180
gaacgcacag ttaggcagc agggccagaa tcctgacct ctgccccgtg gttatctcct 240
ccccagcttg gctgcctcat gtcacacag tattccattt tgtttggtgc atgtcttggt 300
aagccatcaa gattttctcg tctgttttcc tctcattggt aatgctcact ttgtgacttc 360
atttcaaadc tgtaatcccg ttcaaataaa tatccacaac aggatctgtt ttctgcccc 420
tcctttaagg aacacatcaa ttcattttct aatgtccttc ctcacaagc gggaccaggc 480
acagggcgag gctcatcgat gacccaagat ggcggccggg catttctcc agggatctct 540
gtgcttcctt ttgtgcttc tgtgtgtgtg gatatttaaa ggggctggaa atgtgcaaaa 600
acatgtcact acttagacat tatattgtca tcttgctgtt tctagtgatg ttaattatct 660
ccatttcagc agatgtgtgg cctcagatgg taaagtcagc agcctttctt atttctcacc 720
tctgtatcat caggtccttc ccaccatgca gatcttcctg gtctccctcg gctgcagcca 780
cacaaatctc ccctctgttt ttctgatgcc ag

```

812

<210> 472

<211> 515

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(515)

<223> n = A,T,C or G

<400> 472

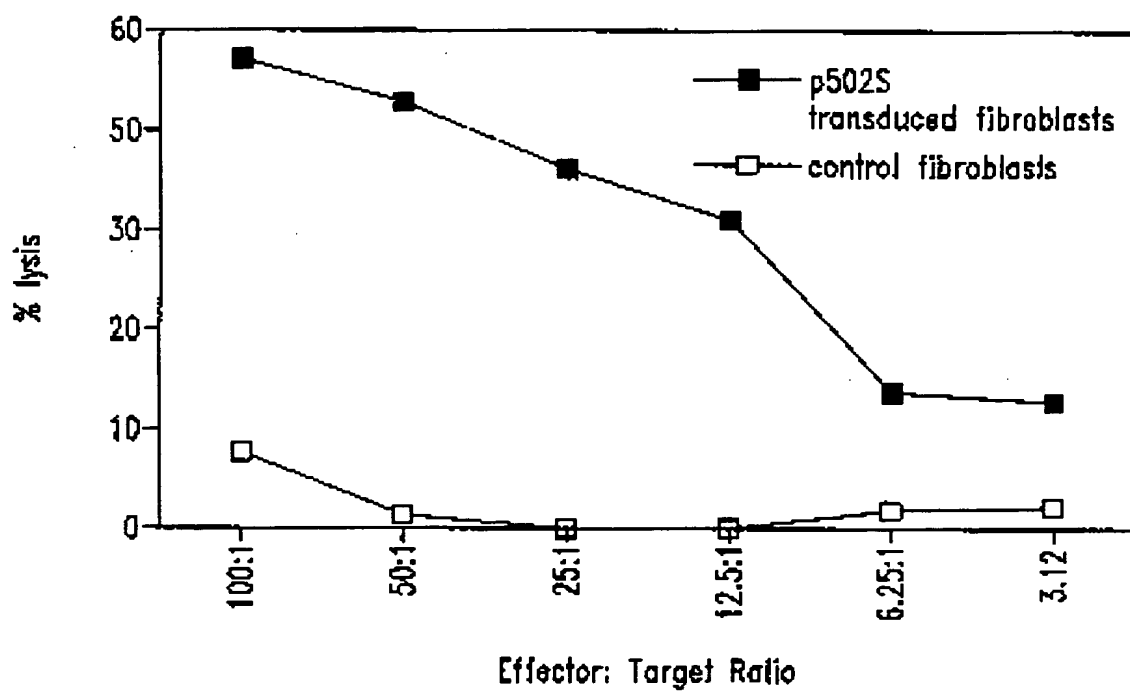
```

acggagactt attttctgat attgtctgca tatgtatgtt tttaagagtc tggaaatagt 60
cttatgactt tcctatcatg cttattaata aataatacag cccagagaag atgaaaatgg 120
gttccagaat tattggctct tgcagcccg tgaatctcag caagaggac caccaactga 180
caatcaggat attgaacctg gacaagagag agaaggaaca cctccgatcg aagaacgtaa 240
agtagaagg gattgccagg aatggatct ggaaaagact cggagtgagc gtggagatgg 300
ctctgatgta aaagagaaga ctccacctaa tctaagcat gctaagacta aagaagcagg 360
agatgggcag ccataagtta aaaagaagac aagctgaagc tacacacatg gctgatgtca 420

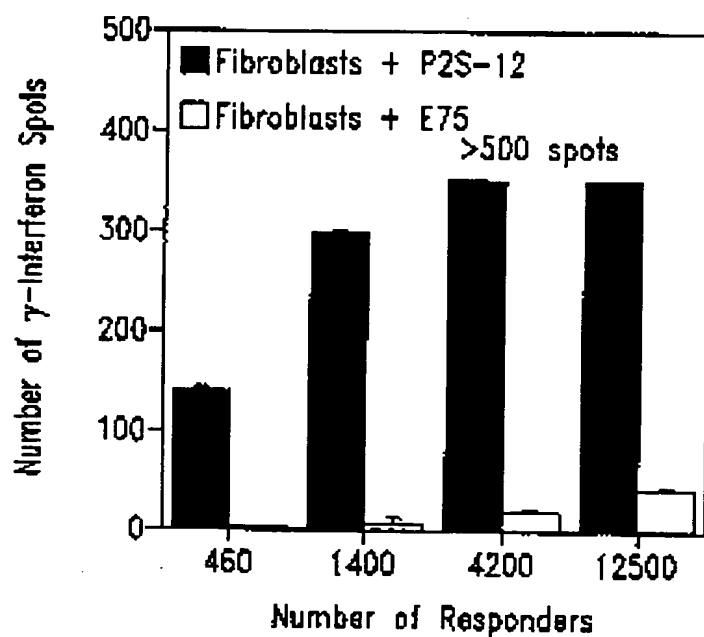
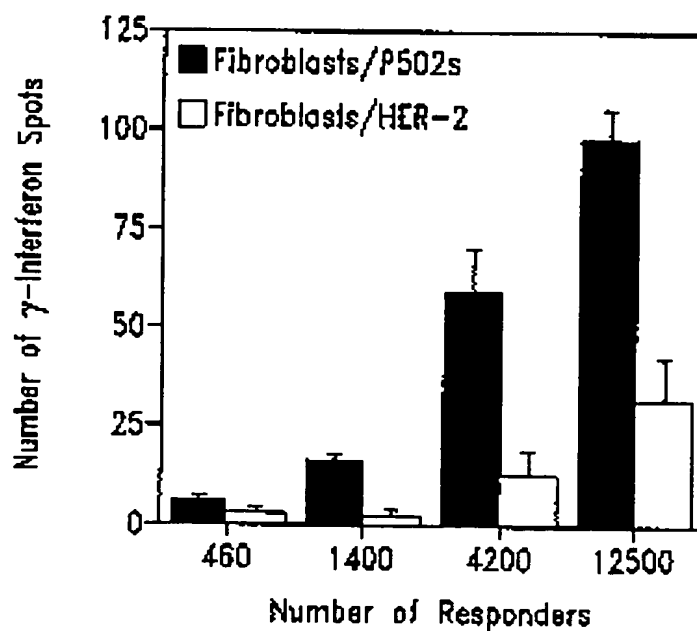
```

cattgaaaat gtgactgaaa atttgaaaat tctctcaata aagtttgagt tttctctgaa 480
gaaaaaaaaa naaaaaaaaa aaanaaaaan aaaaaa 515

1/5

*Fig. 1*

2/5

*Fig. 2A**Fig. 2B*

SUBSTITUTE SHEET (RULE 26)

3/5

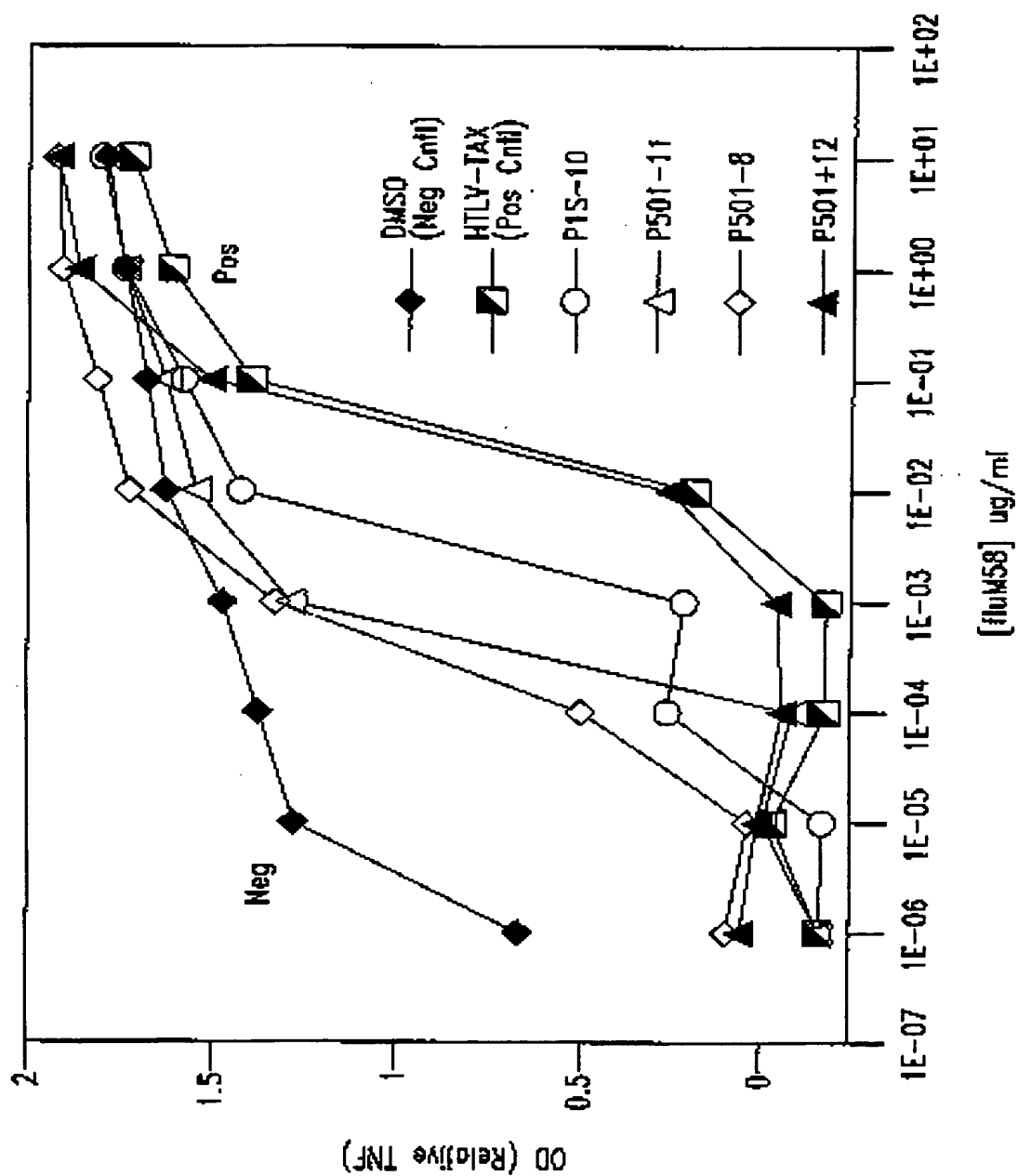
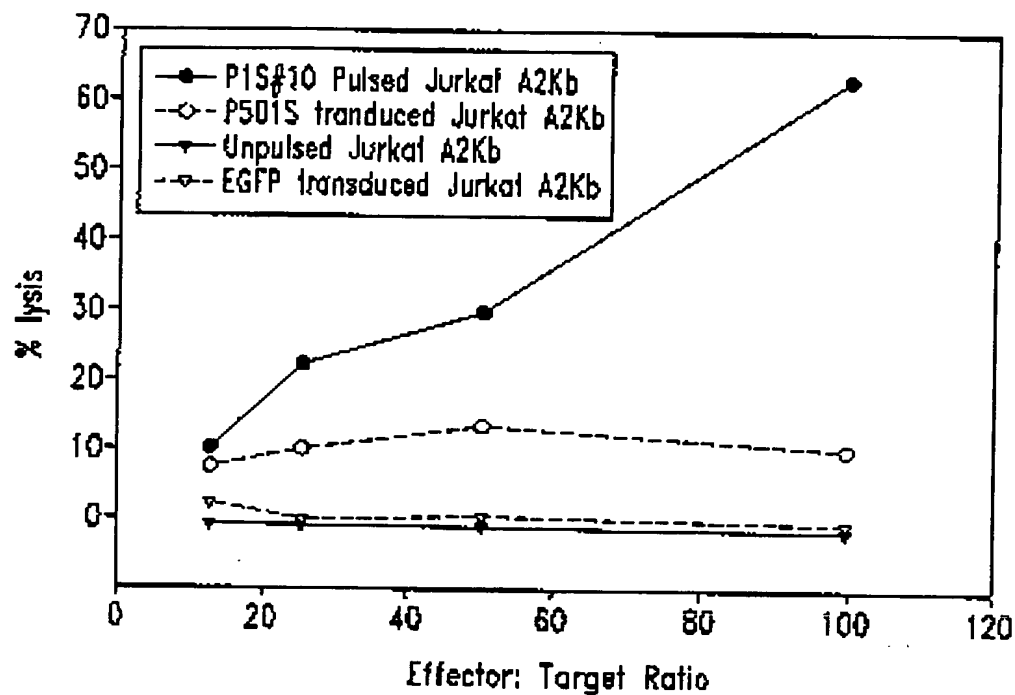
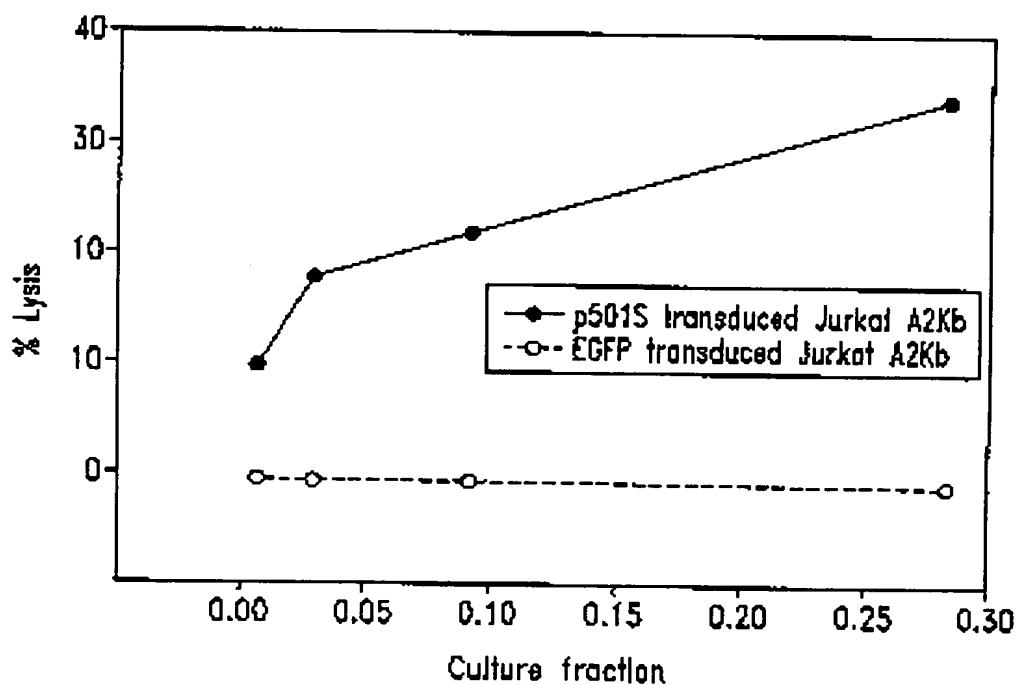


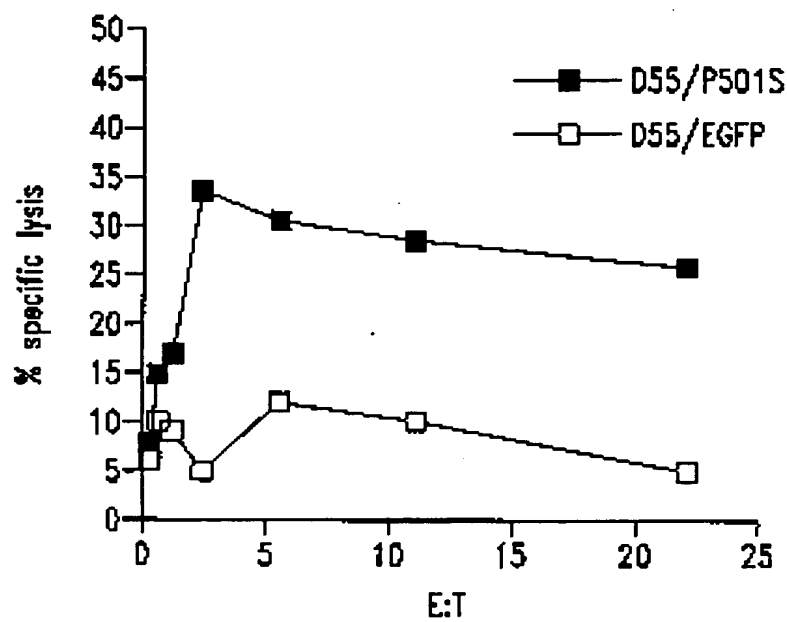
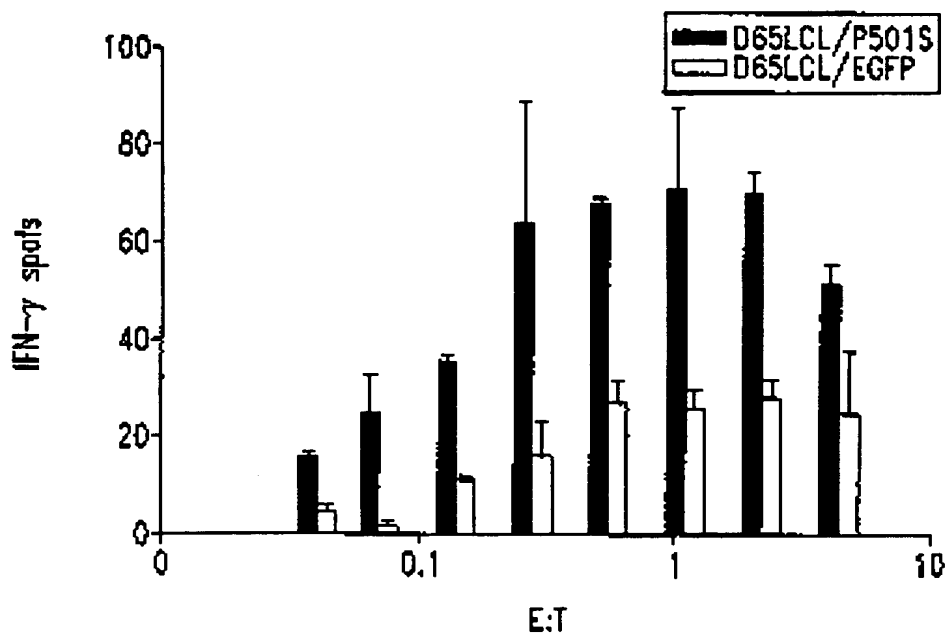
Fig. 3

4/5

*Fig. 4**Fig. 5*

SUBSTITUTE SHEET (RULE 26)

5/5

*Fig. 6**Fig. 7*

SUBSTITUTE SHEET (RULE 26)

SEQUENCE LISTING

<110> Corixa Corporation

<120> COMPOUNDS FOR IMMUNOTHERAPY AND DIAGNOSIS
OF PROSTATE CANCER AND METHODS FOR THEIR USE

<130> 210121.42701PC

<140> PCT

<141> 1999-07-08

<150> 472

<170> FastSEQ for Windows Version 3.0

<210> 1

<211> 814

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}...{814}

<223> n = A, T, C or G

<400> 1

tttttttttt	tttttcacag	tataacagct	ctttatttct	gtgagttcta	ctaggaaatc	60
atcaaatctg	aggggtgtct	ggaggacttc	aatacacctc	ccccratagt	gaatcagctt	120
ccaggggggtc	cagtccctct	ccttaactta	tcccatccc	atgccaaagg	aagaccctcc	180
ctccttgggt	cacagccttc	tctaggettc	ccagtgcctc	caggacagag	tgggttatgt	240
tttcagctcc	atccttgcct	tgagtgtctg	gtgogttgtg	cctccagctt	ctgctcagtg	300
cttcatggac	agtgtccagc	acatgtcact	ctccactctc	tcagtgtgga	tcactagtt	360
ctagagcggc	cgccaccgct	gtggagctcc	agcttttgtt	cccttttagtg	agggttaatt	420
gcgcgcttgg	cgtaatcatg	gtcataactg	tttccctgtg	gaaattgtta	tccgctcaca	480
attccacaca	acatacagag	cggaaagcata	aagtgtaaag	cctgggggtgc	ctaattgagtg	540
anctaactca	cattaatgtc	gttgoctca	ctgnccgctt	tccagtcnng	aaaactgtcg	600
tyccagctgc	attaatgaat	cggccaacgc	ncgggggaaa	gcgggtttgcg	ttttgggggc	660
tcttccgctt	ctcgctcact	nantcctgcg	ctcggtcnnt	cggctgtcggg	gaacgggtatc	720
adtccctcaa	ggnnggtatta	cggttatccn	naaatcnngg	gatacccnngg	aaaaaanttt	780
aacaaaaggg	cancaaaaggg	cngaaacgta	aaaa			814

<210> 2

<211> 816

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}...{816}

<223> n = A, T, C or G

<400> 2

acagaatagt	tggatgggtgg	agracctttc	tatacgactt	acaggacagc	agatggggaa	60
tccatggctg	tgggagcaat	agaacccag	ttctacgagc	tgtgatcaa	aggacttggg	120

ctaaagt.ctg	atgaacttcc	cbatcagatg	ayuatggatg	attggccaga	aatguagaag	180
aagttrgag	atgtatttgc	aaagaagacg	aaggcagagc	ggcgtcaaat	ctttgacggc	240
acagatgctt	gtgtgactcc	ggctctgact	tttgaggagg	ttgttcatca	tgatcacanc	300
aaggaaacgg	gctcgtttat	caccagttag	gagcaggacg	tggcccccgg	ccctgcaccc	360
ctgctgttaa	acaccccagc	catcccttct	ttcannaggg	atccactagt	tctaagaagc	420
gcgcgcacgg	oggtggagct	ccagcttttg	ttcccttttg	tgggggttaa	ttgcgcgctt	480
ggcgtaatac	tggtcataagc	tgtttccctgt	gtgaaattgt	tatccgctca	caattccccc	540
aacatacggg	ccggaacata	aagtgttaag	ctgggggtgc	ctaataantg	agctaactcn	600
cattaattgc	gttgcgctca	ctgcgcgctt	tccagtcggg	aaaactgtcg	tgcuaatgcn	660
ttantgaatc	ngccaccccc	cgggaaaagg	cggttgcntt	ttgggacctc	tccgctttcc	720
tcgtcatttg	atcctngcnc	ccggtccttcg	gctgcggnga	acggttcaact	ccccaagggc	780
ggctntccgg	ttatccccc	acnggggata	ccnga			816

<210> 3
 <211> 773
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(773)
 <223> n = A,T,C or G

cttttgaag	aaaggatggc	tgggggtgtt	aacagcagag	gtgcaggggc	gggggtcacg	60
tctgtctct	cactgggtgat	aaacgagccc	cgctccctgt	tgtgatcatg	atgaaacaac	120
tctcacaag	tcagaacccg	agtcacacag	gcattctgtc	cgccaaagat	ttgacaccac	180
tctgccttcg	tcttctttgc	aaatacatct	gcacacctct	tcttcatttc	tggccaatca	240
cccatgctca	tctgattggg	aagttcatca	gaatttagtc	canntccctt	gatacagrag	300
tcttagaact	gggggtctat	tgtccaaca	gccatgaatt	ccccatctgc	tgtcctgtaa	360
gtcgtataga	aagggtgctcc	accatccaac	atgttctgtc	ctcagggggg	ggccccgtac	420
ccaattcgcc	ctatantgag	tctgattacg	cgcgctcact	ggcugtctgt	ttacaacgtc	480
gtgactggga	aaacccctgg	cgctaaccaac	ctaactgcct	tgcagcanat	ccccctttcg	540
ccagctgggc	gtaatancca	aaaggccccc	accgatcgcc	cttcacaacag	ttgcgcaccc	600
gaatgggnaa	atgggaaccc	ccgtgttaacc	cgcattnaac	ccccgcnggg	tttngttgtt	660
acccccacnt	nnacogetta	cactttgcca	gcgccttanc	gcgcgtcccc	tttccctctt	720
cttcccttcc	tttccnccn	cttcccccgg	gggtttcccc	ntcaaacccc	cna	773

<210> 4
 <211> 828
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(828)
 <223> n = A,T,C or G

cctcctgagt	cctactgacc	tgtgctttct	gggtgtggagt	ccagggtctgc	taggaaaagg	60
aatgggcaga	cacaggtgta	tgccaatgtt	tctgaaatgg	gtataatttc	gtcctctcct	120
tgggaacact	ggctgtctct	gaagacttct	cgctcagttt	cagtggaggc	acacacaaag	180
acgtgggtga	ccatgttctt	tgtggggctg	agagatggga	gggggtggggc	ccacccctga	240
agagtggaca	gtgacacaag	gtggacactc	tctacagatc	autgaggata	agctggagcc	300
acaatgcctg	aggcacacac	acagcaaggga	tgaacnctga	aacatagccc	acgtgtctct	360

gnggggactg	ggaagcctan	atnaggccgt	gagcanaaag	aaggggagga	lccactagtt	420
ctanagcggc	cgccaccccg	gtgganctcc	ancttttgtt	ccctttagt	agggktaatt	480
gngcgtttg	cntaatcatg	gtcatanctn	tttccctgtg	gaaattgtta	tccgctcaca	540
attccacaca	acatacganc	cggaacata	aatgttaaa	clggggtgco	taatgantga	600
ctaactcaca	ttaatiggt	tgcgtcact	gcccgccttc	caatcnggaa	acctgtcttg	660
ccncttgcat	tnatgaatcn	gcgaacccco	ggggaaaagc	gtttgugttt	tgggcgtctt	720
tccgcttcc	cnctcantta	ntccctcncc	tccgtcattc	cggctgcngc	aaacgggttc	780
accnctcca	aagggggtat	tcgggtttcc	cnaatccgg	gganance		828

<210> 5
 <211> B34
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> {1}...{834}
 <223> n = A,T,C or G

<400> 5						
tttttttttt	tttttactga	tagatggaat	ttattaagct	tttccatgt	gataggacat	60
agttttaatt	gcattccaag	tactaacaaa	aactctagca	atcaagaatg	gcagcatgtt	120
attttataac	aatcaacacc	tgtggctttt	aaaatttgg	tttontaaga	taattttatc	180
tgaagttaac	ctagccatgc	ttttaaaaa	tgccttaggt	cactccaagc	ttggcagtta	240
acatttggca	taaacastaa	taaaacaaac	acaatttaac	aaataaaca	tacaacattg	300
taggcctata	tattatacag	tataaggaaa	aggctgtagt	gttgagtaag	cagttattag	360
aatagnatar	cttggcctct	atgcaaatat	gtctagacac	cttgattcac	tcagccctga	420
cattcagttt	tcaaaagttag	agacagggtt	tacagtatca	ttttacagtt	tccaacacat	480
tgaanaaaag	tagaaaatga	tgaattgatt	tttattaatg	cattacatcc	tcaagagtta	540
tcaccaaac	ctcagctata	aaaaattttt	aagttatatt	agtcatacaa	cttgggtgtgc	600
ttatttttaa	ttagtgttaa	atggattaa	tgaagacac	aatggctccc	taattgtgatt	660
gatattgggt	atttttaaca	gttctataat	ctnaactttc	agggttttga	actgggaacat	720
tgnatnacag	tgttccanag	tttcaaacct	ctgggaacatt	acagtggtgt	tgattcaaaa	780
tgttattttg	ttaaaattta	aattttaacc	tgggtgaaaa	ataatttgaa	atna	834

<210> 6
 <211> 818
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> {1}...{818}
 <223> n = A,T,C or G

<400> 6						
tttttttttt	tttttttttt	aagacccctca	tcaatagatg	gagacataca	gaaatagtc	60
aaaccacatct	acaaaatgcn	agtalccaggc	ggcggcttcg	aagccaaggt	gatgtttgga	120
tgtaaagtga	aatattagtt	ggcggatgaa	gcagatagtg	aggaaagtgt	agccaatatt	180
gacgtgaagt	ccgtggaagc	ctgtggtatc	aaaaaatgtt	gagccgtaga	tgcgtcgga	240
aatggtgaa	gggactcga	agtaacttga	ggcttctagg	agggtaaaa	agagacccag	300
taaaattgta	ataagcagtg	cttgaattat	ttgggtttcgg	ttgttttcta	ttagactatg	360
gtgagctcag	gtgattgata	ctcctgatgc	gagtaatacg	gatgtgttta	ggagtgaggac	420
ttctagggga	tttagcgggg	tgatgctgt	tgggggcag	tgccctccta	gttgggggggt	480
aggggctag	ctggagtggt	aaaaggctca	gaaaaatcct	gcgaagaaaa	aaactttctga	540

ggtaatnaat	aggattatcc	cgtatcgaag	gccttttttg	acaggtgggtg	tgtggtggcc	600
ttggatgtg	ctttctcgtg	ctacatcgcg	ccatccttgg	tatctggtta	gtgtgttggg	660
ttantanggc	ctantatgaa	gaacttttgg	antggaatta	aatcaatngc	ttggccgga	720
gtcatanga	nggctnaaaa	ggcctgttta	ngggtctggg	ctnggtttta	ccnaccat	780
ggaatnccc	ccccggaana	ntgnatccct	attcttaa			818

<210> 7

<211> 817

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}... (817)

<223> n = A,T,C or G

<400> 7

tttttttttt	tttttttttt	tggtcttaga	gggggtagag	gggggtgctat	agggtaanta	60
ogggccctat	ttcaaagatt	tttaggggaa	ttanttttag	gacgatgggt	atgaaactgt	120
ggtttgctcc	acagatttca	gagcattgac	cgtagtatac	ccccggtcgt	gtagcgtga	180
aagtggcttg	gttttagacgt	ccgggaattg	catctgtttt	taagcctaata	gtggggacag	240
ctcatgagt	caagacgtct	tgtgatgtaa	ttattatacn	aatgggggct	tcaatcggga	300
gtactactcg	atttgtcaacg	tcaaggagtc	gcaggtcgcc	tggttctagg	aataatgggg	360
gaagtatgta	ggaattgaag	attaatccgc	cgtagtcggg	gttctcctag	gttcaatacc	420
attggtggcc	aattgatttg	atggtaaggg	gagggatcgt	tgaactcgtc	tgttatgtaa	480
aggaatccct	ngggatggga	aggaatnna	ggactangga	tnaatggcgg	gcangatctt	540
tcaaacngtc	tctanttctt	gaaacgtctg	aaatgttaat	aenaalttaan	tttngttatt	600
gaatnctnng	gaaaagggtc	tacaggacta	gaaaccaaat	angaaanta	atnntaangg	660
cnttatcntn	aaaggtnata	accnctctta	tnatcccacc	caatngnatl	ccccacnenn	720
acnaltggat	nccccanttc	caaaaanggc	cnccccccgg	tgnannccnc	cttttgttcc	780
cttnantgan	ggttatttnc	ccctngentt	atcance			817

<210> B

<211> 799

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}... (799)

<223> n = A,T,C or G

<400> 8

catctccggg	tttactttct	aaggaaaagcc	gagcgggaagc	tgctaacgtg	ggaatcgggtg	60
cataaggaga	actttctgct	ggcagcgcgt	agggacaagc	gggagagcga	ctcogagcgt	120
ctgaagcgca	cgtcccagaa	ggtggacttg	gcactgaaac	agctgggaca	catcngcgag	180
tacgaacagc	gcctgaaagt	gctggagcga	gaggtccagc	agtgtagccg	cgtcctgggg	240
tgggtggcgg	angectganc	cgtcttgcc	tgtgcccc	angtgggccc	ccacccccctg	300
acctgacctg	gtccaaaac	tgagccctgc	tggcggaactt	caagganaac	ccccacangg	360
ggattttgct	cctanantaa	ggctcatctg	ggcctcggcc	ccccacctg	gttggccttg	420
tctttgawgt	gagccccatg	tccatctggg	ccactgtcng	gacraccttt	ngggagtgctt	480
ctccttacaa	ccacennatg	ccgggctcct	ccgggaaccc	antcccance	tnggaaggat	540
caagncctgn	atccactnnt	netanaaccg	gcncncccg	cngtggaaac	cncttltgtt	600
tctttttctt	tnagggttaa	tnacgccttg	gccttncan	ngtccctncc	nttttccnnt	660
gttnaaattg	ctangcnc	nccnntcccn	cnncnncan	ccccacccnn	anntttnann	720

ncctgggggt nccnnccgat tgaucenncc nccctntant tgcnttnggg nccntggcc 780
ctttccctct nggyannccg 799

<210> 9
<211> 801
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> {1}...{801}
<223> n = A,T,C or G

<400> 9
acgccctgat cctcccaggg tgggaactggg tctgggagga gccgggcgat ctgtgggttg 60
taangatgac actcccaag gtggctctga cagtggccca gatggacatg gggctccact 120
caggagcang gccaccaggt gggggggucy aagccacat gatccctact ctatgagcaa 180
aatccctgt gggggcttct ccttgaagtc cggcancag gctcagctct tggaccucang 240
cagytuatgg ggttgtngnc caactggggg ucncaacgca aaangggncu gggcctcngn 300
caccatccc angacggggc taacttctg gacctccnc tccaccactt tcatgagctg 360
ttcctaccgg cgnatntgt ccanctgtt cngtgcncac tccanctct nggacgtgcg 420
ctacatacgc cgggancnc detcccgctt tgtccctatc caagtncan caacaaattt 480
cncctantg caccnattcc caentttnnc agnttccnc nncgncttc cttnntaaaag 540
ggttganccc cggaaatnc cccaaagggg gggggccngg tacccaactn cccctnata 600
gctgaantcc ccatnaccnn gactcnatgg anccntccnt cttaannacn tctnnaactt 660
gggaanance ctgncctn nccccntbaa tccnccctg cnangnnent ccccnntcc 720
ncccnntng gcnctnann cnaaaaaggc cennnancaa tctcctnncc cctcanttcg 780
ccanccctcg aatcggrcn c 801

<210> 10
<211> 789
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> {1}...{789}
<223> n = A,T,C or G

<400> 10
cagtcctatnt ggccagtggt gcaactttcc ctgtggctgc cggatgccaca tgcctgtccc 60
acagtggtggc cgtggtgaca gcttcagccg cctccacccg gtccaccttc tcagccctgc 120
agatccctgrr ctacacactg gccctccctct accacgggga gaagcaggtg ttcctgccc 180
aataccgaggg ggacactgga ggtgctagca gtgaggacag cctgatgacc agcttccctg 240
caggccctaa gccctggagct ccttcccta atggacacgt ggggtgctga ggcagtgagg 300
tgcctccacc tccaccggcg ctctgggggy cctctgccc tcatgtctcc gtacgtgtgg 360
tgggtgggtga gcccaaccan gccagggtgg tccggggucg gggcatctgc ctggacctcg 420
ccatccctgga tagtgcttcc tgcgtgcoca ngtyggccca tccctgttta tgggtccat 480
tgtccagctc agccagctcg tcaatgccca tatggtgtct gccgcaggcc tgggtctgg 540
cccatttact ttgctacaca ggtantattt gacaagaacg anttggcraa atctccagcg 600
tcaaaaaatt ccagcaacat tgggggtgga aggcctgcct cactgggtcc aactcccgcg 660
tccgtttaac cccatggggc tgcgggcttg gccgccaat tctgttgctg ccaaanctat 720
gtggctctct gctgccacct gttgctgggt gaagtgcnta cngcncanct ngggggggtng 780
ggngtccc 789

<210> 11
 <211> 772
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(772)
 <223> n = A,T,C or G

<400> 11
 cccaccctac ccaaatatta gacaccaaca cagaaaagct agcaatggat tccctttctac 60
 tttgttaaat aattaaattt aatattttaa tgcctgtgtc tctgtgatgg caacagaagg 120
 accaacaggg caccatcctga taagaaggtaa gagggggggtg gatcagcaaa aaggaaggtgc 180
 tgtgggctga ygggacctgg ttcttgtgtg ttgcccctca ggaactcttc cctacaaata 240
 actttcataa gttaaatatc catggggggg tgtttcctcc tagaaactcc catgcaagay 300
 ctacattaaa cgaagctgca ggttaagggg cttanagatg ggaacccagg tgactgagtt 360
 tattcagctc ccaaaaaccc ttctctagggt gtgtctcaac taggaggcta gctgttaacc 420
 ctgagcctgg gtaatccacc tgcagagttc ccgcattcca gtacatggaa cctttctggc 480
 ctccctgtat aagteragac tgaaccccc ttggaaggnc tccagtragg cagccctana 540
 aactggggaa aaaaagaaaag gacgccccan ccccagctg tgcactacg caactcaaca 600
 gcacgggtg gcagcaaaa aaccatttta ctctggcaca acaaaaact ngggggggca 660
 accccggcac ccnangggg gttaacagga ancgggnaa cntgggaacc aattnaggca 720
 ggccnccac ccnaatntt gctgggaaat tttcctccu utaaattntt tc 772

<210> 12
 <211> 751
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(751)
 <223> n = A,T,C or G

<400> 12
 gcccaattc cagctgccc accacccacg gtgactgcat tgyttcggat gtratacaaa 60
 agctgattga agcaacctc tactttttgg tctgagcct ttgcttggg gcagggttca 120
 ttggctgtgt tggtaggtt gtcattgcaa cagatgggg gaaaggcact gttctctttg 180
 aagtanggtg agtccctcaa atccgtatag ttggtgaagc canagcattt gaggcccttc 240
 atggtggtgt tccacaattg agtgaagtc ttctgggaac cataatcttt ctltgatggca 300
 ggcactacna gcaacgtcag ggaagtgtc agccattgtg gtgtacacca aggcgaccac 360
 agcagctgcn acctcagcaa tgaagatgan gagganattg aagaagaacy tcnngagggc 420
 acacttgctc tcagtcttan caccatanca gccctgaaa accaananca aagaccacna 480
 cnrcggctgc gatgaagaa tnaccccng ttgacaaact tgcattggac tggganccac 540
 agtggccca aaaaatcttc azaaggatgc cccatcnatt gaccccccac atgcccactg 600
 ccaacagggg ctgccccacn cncnnaacga tganccnatt gnacaagatc tncntggctc 660
 tnatnaact gaacctgcn tngtggctcc tgttcaggnc cnnggcctga ctltcnaani 720
 aaggaactcn gaagncccc ongganannc g 751

<210> 13
 <211> 729
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(729)
 <223> n = A,T,C or G

<400> 13

gagccaggcg	tccctctgcc	tgercaactca	gtggcaacc	ccgggagctg	ttttgtcctt	60
tgtggancc	cagcagtncc	ctctttcaga	actcantgcc	aagancctg	accaggagcc	120
accatgcagt	gcttcagctt	cattaagacc	atgatgatcc	tcttcaattt	gctcactctt	180
ctgtgtggtg	cagccctgtt	ggcagtgggc	atctgggtgt	caatcgatgg	ggcactcctt	240
ctgaagatct	tggggccact	gtcgtccagt	gccatgcagt	ttgtcaacgt	gggctacttc	300
ctcatcgca	ccggcgttgt	ggctcttagt	ctaggcttcc	tgggtgcta	tgytgctaag	360
actgaagaca	agtgtgccc	cgtgaagttc	ttcttcaccc	tctctcctcc	cttcacttgc	420
gaggttgcaa	tgtgtgggc	gccttgytgt	acaccacaat	ggctgagcac	ttcctgargt	480
tgtgtgta	gctgocac	aaaaaaagat	tatgggttcc	cagggaanact	tcaactcaagt	540
gttgggaacac	caccatgaaa	gggctcaagt	gctgtggctt	cnnccaaacta	tacgggatttt	600
gaagantcac	ctacttcana	gaaanagtgt	cctttccccc	atttctgttg	caattgacaa	660
acgtcccca	cacagccaat	tgaaaacctg	cacccaaccc	aaanggggtcc	ccaccanana	720
attnaaggg						729

<210> 14
 <211> 816
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(816)
 <223> n = A,T,C or G

<400> 14

tgtcttctct	caaagtctgt	cttgttgcca	taacaaccac	cataggtaaa	gcgggcgtag	60
tgttcagctga	aggggttgta	gtaccagcgc	gggatgctct	ccttgcaagag	tcttgtgtct	120
ggcaggtcca	cgragtgcgc	tctgtcactg	gggaantgga	tgcgttgag	ctcgtcaaag	180
ccactcgtgt	atttttcaca	ggcagcctcg	tccgacgcgt	cggggcagtt	gggggtgtct	240
tcacactcca	ggaaactgtc	natgcagcag	ccattgctgc	agcggaaactg	ggtgggctga	300
cangtgccag	agcacactgg	atggcgccct	tccatgnnan	gggcccgtgng	ggaaagtccc	360
tgancccca	anctgcctct	caaangcccc	accttgraca	ccccgcaggg	ctagaatgga	420
atcttcttcc	cgaaggttag	ttnttcttgc	tgcccaancc	anccccntaa	acaaactctc	480
granatctgc	tccgnggggg	tctantacc	ancgtgggaa	aagaaccccc	ggngcgaac	540
caancttggt	tggatnccaa	gcnataatct	ncnttcttgc	ttggtggaca	gcaccantna	600
ctgtnnanct	ctagncctty	gtcctcttgg	gttgnncttg	aacctaatcn	ccnntcaact	660
gggacaaggt	aantngcent	ccttttaatt	cccnancttn	ccccctggtt	tggggctttt	720
cncnctccta	ccccagaaa	ncogtgtter	cccccaactc	ggggccnaaa	ccnnttnttc	780
cacaaacctn	ccccaccac	gggttcngnt	ggttng			816

<210> 15
 <211> 783
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(783)
 <223> n = A,T,C or G

<400> 15

ccaaggcctg	ggcaggcata	naattgaagg	tacaacccca	ggaaacccctg	gtgctgaagg	60
atgtggaaag	cacagattgg	cgctactg	ggggtgacac	ggatgtcagg	gtagagagga	120
aagaccctaa	ccaggtggaa	ctgtggggac	tcaagggaag	cacgtacctg	ttcaggtga	180
cagtgaclag	ctcagacac	ccagaggaca	cggcgaacgt	cacagtcaat	gtgtgttcca	240
ccaagragac	agaagactac	tgcctcgcat	craacaangt	gggtcgtg	cggggcctt	300
tcccacgctg	gtactatgac	ccracggagc	agatctgca	gagtttcgtt	tatggaggct	360
gcttgggcaa	caagaacaac	taccttcggg	aagaagagt	cattctatcc	tgtcnggggtg	420
tgcgaagggtg	gcttttgana	ngcactctg	gggtctcangc	gactttcccc	caggggccct	480
ccatgggaaag	gagccatcca	ntgttctctg	gcacctgtca	gcccacccag	tccggtgca	540
ncatggctg	ctgcactcac	antttctctg	aattgtgaca	acacccccca	ntgcccccaa	600
ccctccraac	aaagcttccc	tgcttcaaaa	tacnccantt	ggctttttnac	aaacncccg	660
cncctccntt	ttcccccnnn	aaacaaaggc	ncnlyccttt	gaactgccc	aaacnnggaa	720
ctcncnngg	aaaaantccc	ccccctgggt	cctnnaanc	cctccncaaa	anctncccc	780
ccc						783

<210> 16

<211> 801

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(801)

<223> n = A,T,C or G

<400> 16

gccccaatc	cagctgccac	ccccccacg	gtgactgcat	tagttcggat	gtcatacaaa	60
agctgabtga	agcaaccctc	tactttttgg	tgtgagcct	tttgccttgg	gcagggttca	120
ttggctgtgt	tggtagcgtt	gtcattgcaa	cagaatggg	gaagggcact	gttctctttg	180
aagttaggggtg	agtcctcaaa	atcgtatag	ttggtgaagc	cacagcactt	gagccctttc	240
atggttgggtg	tccacacttg	agtgaagctt	tcctgggaac	cataatcttt	cttgatggca	300
ggcactacaa	gcaacgtcag	gaagtgtcca	gcuatctgtg	tgtacaccaa	ggcgaccaca	360
gcagctgcaa	cctcagrac	gaagatgagg	aggaggatga	agaaagacgt	cncgagggca	420
cacttgctct	cgtcttagc	acctagcag	ccuangaac	caagagraaa	gaccacaacg	480
cngotgcca	atgaaagaaa	ntacccacgt	tgacaaactg	cattygccact	ggacgacagt	540
tggcccgaa	atcttcagaa	aagggatgcc	ccatcgattg	aacacccana	tgccactg	600
cncagggtct	gcnccnccn	gaagaatga	gcattgaa	aaggatentc	ntggctctaa	660
tgaactgaaa	ccttgcattg	tggccctgt	tcagggtct	tggcagtga	ttctganaaa	720
aagggaacng	ntnagccccc	cuaaangana	aaacacccc	gggtgttgcc	ctgaattggc	780
ggccaaggan	ccctgcccnn	g				801

<210> 17

<211> 740

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(740)

<223> n = A,T,C or G

<400> 17

gtgagagcca	ggcgtccctc	tgcctgcccc	ctcagtggca	acacccggga	gctgttttgt	60
------------	------------	------------	------------	------------	------------	----

cctttgtgga	gctcagcag	ttccctcttt	cagaactcac	tyccagagag	cctgancagg	120
agccaccatg	cagtgcctca	gcttcattaa	gacctgatg	atctctctca	atttgctcat	180
ctttctgtgt	ggtgcagccc	tgttggcagt	gggcattctg	gtgtcaatcg	atggggcctc	240
ctttctgaag	atcttcgggc	cactgtcgtc	cagtgcctatg	cagtttgtca	acgtgggcta	300
ctccctcctc	gcagccggcg	ttgtggcttt	tgtctcttgg	ttccctgggt	gctatggtgc	360
taagacggag	agcaagtgtg	ccctcgtgac	gttctctctc	atctctctcc	tcactctcat	420
tgtctgaagt	gcagctgctg	tggtcgacct	gggtgacacc	acaatggctg	aaccatttct	480
gacgttgctg	gtantgctcg	cctcaanaaa	agcttatggg	ttcccaggaa	aaattcactc	540
aantntggaa	caccnccatg	aaaaggggctc	caattttctg	tggcttcccc	aactataccg	600
gaattttgaa	agantcncct	tacttccaaa	aaaaaanant	tgccttctnc	ccctttctgc	660
tgcaatgaaa	acntcccaan	acngccaatn	aaacctgctc	cnmcaaaaa	ggntcncaaa	720
caaaaaaant	maagggttn					740

<210> 18

<211> 802

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(802)

<223> n = A,T,C or G

<400> 18

ccgctgggtg	cgctggctcc	gngnagccac	gaagcacgctc	agcatacaca	gctcaatcca	60
caaggctctc	cagctgcggc	acattacgca	gggcaagagc	ctccagcaac	actgcatatg	120
ggatpacatt	tactttagca	gcccagggtga	caactgagag	gtgtcgaagc	ttattcttct	180
gagcctctgt	tagtggaggg	agattccggg	ctccagctaa	gtagttagcg	tatgtcccat	240
aaacaaacac	tgtgagcagc	cggaaggtag	aggcaagctc	actctcagcc	agctctctaa	300
cattgggcat	gtccagcagt	tctcraaaca	cgtagacacc	agnggcctcc	agcactgat	360
ggatgagctg	ggccagcgct	gcccccttgg	ccgacttggc	taggagcaga	aattgctcct	420
ggttctgccc	tgtcaccttc	acttcgcac	tcctcactgc	actgagtgtg	ggggacttgg	480
gctcaggatg	tccagagarg	tggttccguc	ccctccttca	atgacaccgn	ccanncaccc	540
gtcggcterc	gncgcntgny	ttcgtcgtnc	ctgggtcagg	gtctgctggc	cnctacttgc	600
aancctcgtc	nggcccragg	aattcacenc	accggaactn	gtangatcca	ctnnhtctat	660
aaccggncgc	caccgcnnnt	ggaaactcac	tcttnttnc	ttacttgag	ggttaaggctc	720
acccttnncc	ttactcttgg	ccaaacctn	ccntgtgtcg	anattngtna	tcnggncnna	780
tnccancnc	atangaagcc	ng				802

<210> 19

<211> 731

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(731)

<223> n = A,T,C or G

<400> 19

cnaagcttcc	aggtnacggg	ccgcnaencc	tgaccnagg	tancanaang	cagncngcgg	60
gagcccaccg	tccagnggny	gngtctttat	ngggaggggc	ggagcccat	cnctggacnt	120
cntgaccccc	actcccccnc	ncncantgca	gtgatgagtg	cagaaactgaa	ggtnacgtgg	180
caggaaacca	gancaaannu	tgtccnntc	caagtggcnc	naggggggcg	ggctggccac	240
gcncatccnt	cnagtgtctg	aaagcccnnn	cctgtctact	tgttctggaga	acngcnnngg	300

catgcccagn	gttanataac	nggengagag	tnantlttgc	tetcccttcc	ggctgcgrcn	360
ngngcctget	tagnngarat	aacctgacta	cttaactgaa	ccnnngaato	tnccnccct	420
ccactaagct	cagaacaaaa	aacttcgaca	ccactcantt	gtcactgnc	tgctcaagta	480
aagtgtaccc	catncecaat	gtntgctngc	ngctctgnc	tgcttlangt	tcggtcctgy	540
gaagacctat	caattnaagc	tatgtttctg	actgcctctt	gtccctgna	acaanccncc	600
cnnctntcva	agggggggnc	ggcccccaat	cccccaacc	ntnaattnan	tttanccccc	660
ccccnggac	cggcctttta	cnanctcnn	nnacngggnc	aaacnnngc	tttccccaac	720
naatccnc	t					731

<210> 20

<211> 754

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(754)

<223> n = A,T,C or G

<400> 20

tttttttttt	tttttttttt	taaaaacccc	ctccattnaa	bynaaacctc	cgaaattgtc	60
caacccccc	ntccaaatnn	ccntttccgg	gnggggggtc	caaacccaan	ttanntttgg	120
annttaaat	aatnttont	tggngynnn	anccnaatgt	hangaaagt	naaccanta	180
tnacttnaa	tncttgga	ccngtngnt	ccaaaaatnt	ttaacctta	antccctcrg	240
aatngbtta	nggaaancc	aantctctnt	aaggttgttt	gaaggntnaa	tnaaaancc	300
nnccaatgt	tttngccac	gcctgaatta	attggnttcc	gntgttttcc	nttaaanana	360
ggtnancccc	ggttantnaa	ccccccnnc	cccaattata	ccganttttt	ttngaattgg	420
gancccnccg	gaattaacgg	ggnnnnctcc	tnntgggggg	cnngnncccc	ccccctcggg	480
ggttngggnc	agghcnnaat	tgtttaaggg	tcggaaaaat	ccctccnaga	aaaaaanctc	540
ccaggntgag	nnnnggggtt	ccccccccc	canggccctt	ctcguaanagt	tgggggttgg	600
ggggcctggg	attctnttcc	ccctnttccc	ccccccccc	cnnggganag	aggttngngt	660
tttntcnnc	ggcccnccn	aaganccttn	ccganttnan	ttaaatccnt	gcctnggcga	720
agtcnnttgn	agggntaaan	ggccccctnn	cggg			754

<210> 21

<211> 755

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(755)

<223> n = A,T,C or G

<400> 21

atcancccat	gaccccnacc	nnngggaccnc	tcancgggnc	nnncnaacnc	cggccnatca	60
nnctnagghc	aetncnnttn	natccnccc	cnccnactac	gcccnnnanc	cnacgcncctc	120
nncanatncc	actganngcg	cgangtngan	ngagaaanct	nataccanag	ncaccanarn	180
ccagctgtcc	nanaangcct	nnnatccngg	nnnatcccat	ntgnaacctc	cnaagtattn	240
nnccnccan	gattttcctn	anccgattac	ccntnccccc	tanccctccc	cccccaacna	300
cgagggcnct	ggncnnaagg	nnngcncncc	ccgtagntcc	cccnccaagt	cnncncccta	360
aactcanccn	nattacnccg	ttctnggcta	tcactccccc	aatctccccc	tactcaactc	420
aaaaaanatcn	gatacaaaat	aatncaagcc	tgnttatnac	actntgactg	ggctctctatt	480
ttagnggtcc	ntnaancntc	ctaatacttc	cagctcncct	tcncccaatt	ccnaanggct	540
cttctngaca	gcanttttgg	gtcccnntt	gggttcttan	ngaattggcc	ttctnngaac	600

```

gggctcctct tttccttcgg ttanccctggg ttcnnccggg cagttattat tccccttttt 660
aaattccttc ctttctttt tggccttcct aacccccggg ct.tgaaaaag gccccctggg 720
aaaaggttgt tttganaaaa tttttgtttt gt.tcc 755

```

```

<210> 22
<211> 849
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(849)
<223> n = A,T,C or G

```

```

<400> 22
tttttttttt tttttangtg tngtcgtgca ggttagagget tactacaant gtgaanacgt 60
acgtctnggan taangcganc cquattctag gannccctct aaatcanac tctgaagatn 120
atccctganna uggaaanggtc accgggngal nntgctaggg tgnccctctc canncctctn 180
cataactcng nggcccctgc caccacette ggccggccchg ngnccggggcc cgggtcattt 240
gnnttaaccn caetnnngca ccggtttccn ncccccnnng acccnggcga tccggggttc 300
tctgtcttcc cctgnagcn anaaantggg ccccggnccc ctttaccct nnaaaagcca 360
cngcctctca nccnngccc cccctccant nngggggact gccnanngt cgttctctng 420
maaccccnnn gggtccctcg gttgtcgaat cnaecgnang ccanggatc cnaaggaggg 480
tgggttnttg gcccctaccc ttcgtctcgg nncacccttc ccgacnanga nccgctcccg 540
cncnncgngg cctcncctcg caacaccgga nctctcngt nccggnnnccc ccccacccgc 600
nccctcncnc ngncgnanct ctcnccncc gtctcanncc ccccccggc ccgcagggcc 660
ntcancacac cgnngacnng nagenccntc gnccccgcn gggnccctc cgcctcngaa 720
ctnctcngg ccantnnccg tcaanccnna cnaaacggcg ctgcgcggcc cgnagcgncc 780
nccctcncga gtcctcccg nctccnacc angnattccn cgaggacac nnaacccgcc 840
nncangcgg 849

```

```

<210> 23
<211> 872
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(872)
<223> n = A,T,C or G

```

```

<400> 23
ggcnaaacta taattcgctc gnaactcgtgc gctcctctnc tcttttcttc ugcacccatg 60
tctgaenanc ccgattnggc ngatatcnan aagntcganc agtccaaact gantaaacaa 120
cacacnchan aganaaatcc nctgccttcc anagtanacn attgaacnng agaaccangc 180
nggcgaatcg taatnagggc tgcgcgcga atntglncc gtttatcttn ccagctcnc 240
ctnccnaccu taentctten nagctctcnn accctnngt cgnacccccc naggtcggga 300
tcgggttttn nctgacgng cncctctcc cccctccat naccanccnc ccgcaccac 360
naingcncgc ncccggnct ctcgcncnc ctgtctctn cccctgtngc ctggcncngn 420
accgcattga ccttcgccnn ctncnngaa ncnanacgt cgggattgyn annanngctg 480
tgggnnngcg tctgncccc gtccctccn ncncttcca ccatcttct lccngggctc 540
cncgcctctc tcnncacnc cctgggagcu tntcctntgc cccctttnac tcccctctt 600
cngcgtgncc cgncccccac nctatttcca nacntcttc acaannnct gggtctctcc 660
cncncgngn gtcancnag ggaaggngg ggnccnctg nttyacgttg nggngngtc 720
cgaanctcc tcnccntcan cctacccct cgggcggnct ctngcttnc aattancaa 780

```

ntctcccccgc ngngcncntc ccaguctcnc cccccccntc ctctgcantg tntctctgctc 840
tnaccnntac gantnttcgn cncctctctt cc 872

<210> 24
<211> 815
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(815)
<223> n = A,T,C or G

<400> 24
gcattgcaggc ttgagtattc tatagngtca cctaaatanc ttggcctaata catggtccta 60
nctgncctcc tgtgtcaaat gtatacnaaa tcnatctgaa tctnatntga ccaganngtc 120
tcntncatta gtaacaantg tnttgctaat cctgtcngan ccaattccca tnnaitnccg 180
cgcattcncn gcnccantatn taatngggaa ntcnnntnnn ncaccnncat ctatctntcc 240
gcnucctgac tggmagagat ggatnaittc tntntgacc nactgttca tcttggattc 300
aanancctcc cgcngncac ccgttngng ctagccnntc ccaagacctc ctgtggaggc 360
accctgctc agannccatca aacntggga acccgcnnc anglunagt ngnnccan 420
gacccgctc agnntnacc atccctcnc agcccccctc ttngtgccct anagnnagc 480
gtgtccnanc vntccaat ganacggcc agnccnccg caatlngga caatgtcnc 540
gaaccccta gggggantnc tncancc caggattgtc vncncangaa atccnccncc 600
ccnccctcc cccncttgg gacngtgacc aatcccgga gtnccagtc ggcngnctc 660
ccccccggg nncntggg gggggaant cngnntcanc cngnccagg ntcgnaagg 720
accgncctn ggnccgann gncnntcnga agnccnnt cgtataacc cccctcncca 780
nccnccnnt agntccccc cngggtnccg aangg 815

<210> 25
<211> 775
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(775)
<223> n = A,T,C or G

<400> 25
ccgagatgtc tgcctccglt gccttgcgtg tgctcgcgct actctctctt tctggcctgg 60
aggctatcca ycgtaactca agattccgg tttactcacg tcatccagca gagaatggaa 120
agtcaaattt cctgcaattg tatgtgtctg ggtttcatcc atccgacatt gaenttgat 180
tactgaayaa tgganagaga attgaaaaay tggagcattc agacttgtct ttcagcaagg 240
actggtcttt ctatctctng tactacactg aattccccc cactgaaaaa gatgagtatg 300
ctgtccgtgt gaaccatgtg actttgtcac agcccaagat agttaagtgg gatccagaca 360
tgtaaacag cnnccatggaa gtttgaaagt gcgcgatttg gattggaatga atcccaatt 420
ctgcttgcct gcntttcaat antgatatgc ntatacaacc taccctttat gncuccaaat 480
tgtaggggtt acatnangt tcnctngga catgatcttc ctttataant cncncttcc 540
aattgcccgt cncnngttn ngaatgttcc cnaaacccg gttggctccc ccaggtcncc 600
tcttacggaa gggcctgggc chctttncaa ggttggggga accnaaaatt tcncttntgc 660
cncnccncc cunntcttng nncncaattt ggaacccctc cnatccccc tggcctcnaa 720
ncccttntca aaaaaacttn aaanngtngc naanntttn acttccccc ttacc 775

<210> 26

<211> 820
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(820)
 <223> n = A,T,C or G

<400> 26
 anattantac agtctaactt ttcccaagag gtgtgtanag ggaacggggc cttagaggcat 60
 cccanagata ncttatancu acagtgcctt gaccagagc tgcctgggac atttcctgca 120
 gaaaagggtg cgggcccnat cctcctcct cctccatagc catccnagag gggtagtag 180
 ccacacagcc ttccgtggg gggagtcang gaaacacaa accacagagc anacagacca 240
 ntgatgacca tgggcgggag agagcctct cctgnaccg gggtaggana nganagccta 300
 nctgaggagt ccaactata acgttaacga cmagatnan cactgcttc aagtgcaccc 360
 ttcctacctg acnaccagng accnnnaact gcnagcctgg ganagcctg ggancagcta 420
 acnnagcact cactgcctcc cccatggcgg tncgntccu tggctcctgnc aaggggaagt 480
 cctgttggg attncgggga naccagggg nccccctct ccactgtga aggaaaaann 540
 gatggaattt tnccttccg gccntcccc tcttcttcc cagucccct nntactctc 600
 tccctctntt nctcctgnc acccttnacc cennuatttc ccttnattga cggannctn 660
 ganattccac tncgcctnc cntenatng naanacnaa nactntctna ccnagggat 720
 ggganctctg nctcctctct ctttttctt accnccnntt ctttgcctct ccttgatca
 780 tcccaacntc gntggcctn ccccccnna tcttttccc
 820

<210> 27
 <211> 818
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(818)
 <223> n = A,T,C or G

<400> 27
 tctgggtgat ggcctcttcc tctcagggg cctctgactg ctctgggcca aagaatctct 60
 tgtttcttct ccgagccccc ggcaggggtg attcagccct gcccacctg attctgatga 120
 ctgaggatgc tgtgacggac ccaaggggca aatagagctc cagggtccag ggaagggggc 180
 ctgctgagca cttccgccc tcaacutgac cagccctgac catgagctct gggctgggtc 240
 tccgcttucc gggttctgct ctccangca nqccanucag tggcgttggg ccaactggc 300
 ttctctcagc cccntccctg getctganc tctgtcttcc tgcctgtgc angcncctg 360
 aatctcagtt tccctcctc anngacctc gtctctgann tcttcantta actntgantt 420
 tatnaccnan tggnetgtnc tgcnnactt taatgggccn gacgggctaa tccctccctc 480
 nctccctcc antcnnnna acnagcttnc cntctctcc cntancccg ccnggggaanc 540
 ctcccttggc ctnaccangg gccnnnaccg cccntnctn gggggggcng glnntnnc 600
 ctgntnccc cncctcncnt tncctcttcc cnnccnccn anqcanntc nngtcccn 660
 tnnctcttcn ngntcgnaa ngntcncntn tnnnngnccn ngntnntnccn tccctctnc 720
 cnnctgncg tnnctnnnc ncnngnccc nnnccnnnnn nggnntnncn tntncnngc 780
 cccncccc ngnattaggg cctccnntct cgggcnc 818

<210> 28
 <211> 731
 <212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(731)

<223> n = A,T,C or G

<400> 28

aggaaggggcg	gaggggatatt	gtanngggatt	gagggatagg	agnatgaag	gggaggtgtg	60
tcccaacatg	anggtgnngt	tctcttttga	angagggttg	ngtttttann	ccnggtgggt	120
gattnaaccc	catgtatgg	agnnagaagg	tttnagggat	tttctggctc	ttatcagtat	180
ntanattcct	gtnaatcggg	aaatnatnff	tanncnggaa	aatnttgctc	ccatccgnaa	240
atttctcccg	ggtagtgcat	nttngggggg	cngccangtt	tcccagggtg	ctanaatcgt	300
actaaagntt	naagtgggan	tncaaatgaa	aacctnnuac	agagnatccn	taccggactg	360
tnnttttctt	tggccctntg	actctgcnng	agcccaatar	ccnngngnat	gtcnccmgin	420
unngcggncc	tgaannnncc	tcgnggctnn	gancatcang	gggtttcgca	tcaaaagcnn	480
cgttttncat	naaggcaactt	tngccctcgc	caaccnctng	ccctcnnccc	tttngccgtc	540
nggttctnct	acgtntntng	cnccctnnntn	ganatittnc	ccgcttnggg	naancctcct	600
gnaatgggta	gggncttntc	ttttnacccn	gnggtntact	aatcnnctnc	acgentnctt	660
tctcnacccc	cccccttttt	caatcccanc	ggcnaatggg	gtctccccc	cgaagggggg	720
nnnccanncc	c					731

<210> 29

<211> R22

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(822)

<223> n = A,T,C or G

<400> 29

actagtccag	tgtggtggaa	ttccatttgt	ttgggggncc	ttctatgant	antnttagat	60
cgtctanacc	tccacancctc	ccnaccnangc	ctataangaa	nanuaataga	netgtcnntc	120
atntntacnc	tcatanncct	cnnaagccac	tccctcttaa	ccctactgt	gcttatngcn	180
tnnctantct	ntggcgccctn	cnanccaccn	gtggggcnac	cnongnatt	ctcnatctcc	240
tnccatntn	gcctananta	ngtnccatcc	ctataccctac	cccaatgcta	nnnetaanen	300
tnccatnantt	annntaaacta	ccactgaent	ngactttcnc	atnanctcct	aatttgaatc	360
tactctgact	cccacngcct	annnatagg	anctccccc	nacnatntct	caaccaaate	420
ntcaacaacc	catctanctg	ctcnccaacc	nttncctccg	atcccccnnac	aaccccccctc	480
ccaaatacce	nccacctgac	ncctcaacccn	caccatcccg	gcaagccnnc	gynccatttan	540
ccactggagt	ccanctngga	naaaaaaaac	ccnaccctctc	tanccnnnat	ctccctaana	600
aatnctcctn	naatttactn	ncantnccat	caanccacn	tgaacnnnaa	ccccctgtttt	660
tanatccctt	ctttcgaaaa	cnaccctttt	annncccaac	ctttngggcc	ccccccctnc	720
ccnaatgaag	gncncccaat	cnangaaacg	nccttgaaac	andnaggcna	anannntccg	780
canatcttat	cccttantctn	ggggnccttt	ncccnngggcc	cc		822

<210> 30

<211> 787

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (787)
 <223> n = A, T, C or G

<400> 30

eggccgctg	ctctggcaca	tgcctcctga	atggcatcaa	aagtgalgga	ctgcccatcg	60
ctaggagaga	ccttctctcc	tactgtcatt	atggagccct	gcagactgag	ggcttuccct	120
gtctgcagga	tttgatgtct	gaaatcgtgg	agtgtggctt	ggagctcctc	atctacatna	180
gctggagggc	ctggaggggc	tctctcgcca	gcctccctct	tctctccacg	ctctccangg	240
acaccagggg	ctccagggcg	cccattcttc	ccagnangac	atgggtgttc	tcacgcggga	300
cccctggggc	ctgnaaggcc	agggtctcct	ctgacaccat	ctctcccgtc	ctgcctggca	360
ggcctgggga	tcactantct	ctanaacggg	cgccaccncc	gtgggagctc	cagctttctgt	420
tcccttctct	gnaaggtta	tgcncgcttg	gcgtacatcat	nggtcanaan	tncttctctgt	480
gtgaaattgt	ttntccctct	ncnattctcc	ncnaccatac	aaccgcggaa	cataaagtgt	540
taaagcctgg	gggtngcctn	ngaatnaac	tnaacctcat	taattgcgtt	ggctcatggc	600
ccgtttctcn	ttcnggaaaa	ctgtctctcc	ctgcncttnt	gaatcggcca	ccccccnggg	660
aaaagcgggt	tgcntttctg	ggggntccct	cnctctctcc	cctcnctaan	ccctnccgct	720
cggctgttnc	nggtngcggg	gaanngggat	nnctctccnc	naagggggng	agnnngntat	780
cccccaa						787

<210> 31
 <211> 799
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (799)
 <223> n = A, T, C or G

<400> 31

tttttttttt	tttttttggc	gatgctactg	tttaattgca	ggaggtgggg	gtgtgtgtac	60
catgtaccag	ggctattaga	agcaaggagg	ggggagggag	ggcagagrgc	cctgtctgagc	120
aacaaaggac	tcttgcaagg	ttctctgtct	gtctcttggc	gcaggcacat	ggggagggct	180
cccgcagggt	gggggccacc	agtcacgggg	tgggagccat	acanggggtg	ggagtggggtg	240
gtggctggtn	cnaatggcct	gncacnctc	cctacgattc	ltgacacctg	gattttcacc	300
ggggaccttc	ttttctccca	nggnaacttc	nltnatctcn	aaagaacaca	actgtttctt	360
cngcanttct	ggctgttcat	ggaaagccca	gggtgctnct	tlnggctggg	acttggtaca	420
tctggttctg	ggccacctct	ccctcnaaan	aaqtaattca	ccccccccc	ccntctnttg	480
cctgggcccc	taantaccga	cacgggaact	canttantta	ttcatcttng	gntgggcttg	540
nltnatctcn	cctgaangcg	caaagttgaa	aggccacgcc	gtncnctc	cccatagnan	600
nttttntnt	canttaattg	ccccccnggc	aacnatccaa	tccccccccn	tgggggcccc	660
agccacangc	ccccgctctg	ggnnnccngn	cnngnantcc	ccaggtctct	ccantcngnc	720
ccnnngcnc	cccgcacgca	gaacanaagg	ntngagccnc	cgcannnnnn	nggtlnnctac	780
ctcgcccccc	ccnnngngng					799

<210> 32
 <211> 789
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (789)
 <223> n = A, T, C or G

```

<400> 32
ttttttttttt tttttttttt tttttttttt tttttttttt tttttttttt tttttttttt 60
ttttttttttt tttttttttt tttttttttt tttttttttt tttttttttt tttttttttt 120
ggcaacaggc tccggggggg gggggggggg ccttacctgc ggtacccat ntgcagcctc 180
cgtcccgct tcatnttct ctgcagctgc aggatgcctt aaacaggggc ctgggcentn 240
gggtgggcacc ctgggatctn aatttccacg ggcacatgc ggttgcctcc cctcaccacc 300
nattaggaat agtggntta cccnccnccg ttggcncact cccnccggaa cccactntc 360
ggggctccgg catctggctc taaaacctgc aaacnctggg gctctcttt tggttantnt 420
nccngucaca atcatnactc agactggcnc gggctggccc caaaaaanrn ccccaaaacc 480
gggccatgct ttnnccgggt tgcgcacat tncatcaccl cccgggcnca ncaggmcaac 540
ccaaagttc ttgngggccc caaaaaanct cccggggggn cagtttccaa caaagtcac 600
ccncttggcc cccaaatccl ccccccgnnt nctgggttct ggaacccacg cctctnnctt 660
tggnnggcaa gntggntcc ccttccgggc cccgggtggc cennctctaa ngaaaancc 720
ntcctnncca ccatcccc cngnnaacgn tancaangna tccctttttt tanaaacggg 780
ccccccnccg 789

```

```

<210> 33
<211> 793
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> {1}...{793}
<223> n = A,T,C or G

```

```

<400> 33
gacaggaacat gttggtgggt ggagcaccct tctatacagc ttacaggaca gcaqatgggg 60
aattcatggc tgttggagca atanaacccc agttctarga gclactgatu aaaggacttg 120
gactaaaglc tpatgaactc cccaatcaga tgggcatgga tgattggcca gaattgaana 180
agaagtttgc agatgtattt gnaaagaaya cgaaggcaga gtgggtgtca atctttgacg 240
gcacagatgc ctgltatgac cgggttctga cttttgaaya ggttgttcat catgatcaca 300
acaaagaaag gggctcgttt atnaccantg aggagcagga cgtgagcccc cgcctgcac 360
ctctgctgtc aaacaccccc gccatccctt ctttcaaaag ggtaccacta cttctagagc 420
ggncggccacc ggggtggagc tccagctttt gttcccttta gtaggggtta attgcgcgct 480
tggtcgtaat atggtcatan ctgtttctct tgtgaaabct ttatccgctc acaattccac 540
acaaacatacg anccgggaagc atnaaalttt aaagcctggg ggtngcclau tgantgaact 600
nactcacatc aaltggcttt gcgtcactg cccgctttcc agtccggaaa acctgltcct 660
gocagctgcc nttaatgaat cngggccacc cccggggaaa aggcngcttg cttnttgggg 720
cgcncctccc gcttctctgc ttcctgaant ccttcccccc ggtctttcgg cttgcagcna 780
accgtatcna cct 793

```

```

<210> 34
<211> 756
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> {1}...{756}
<223> n = A,T,C or G

```

```

<400> 34
ggcgcgaccc gcatgtacga gcaactcaag ggggagtgga accgtaaaag ccccaatcct 60
ancaaagtgc ggggaanagc gggtcgactc aagctagtct tctcggagct caactctctg 120

```

ccaaccacag	ggarcaaagt	gannaaacag	cagctaatte	tggcccgfga	catactggag	180
atcgggggccc	aatggagcat	cctacgcaan	gacatccncl	ccttcgagcg	ctacatggcc	240
cagctcaaat	gctactactt	tgattacaan	ggcagctcc	cagagt.cagc	ctatatgran	300
cagct.ct.tgg	gcctcaacct	cctcttctgt	ctgtcccaga	acggggtggc	tgantnccac	360
acggantttg	ancggctgcr	tgcceaange	calacanaac	aatgtctaca	tunaccacca	420
gtgtccttga	gcaatartga	tyyangucag	ctaccncaaa	gtnttcttgg	ccnagggtta	480
catccccgc	cgagagctac	accttcttca	t.tgaatctt	gtctgacact	atcagggtatg	540
aaaatcgeng	ggttgcctca	gaaaggctnc	aanaanatcc	tttctnctga	aggccccggy	600
atnctctagt	ntagaatcg	gccccccatc	gcggtgganc	ctccaacctt	togtttacct	660
t.ctactgagg	tttatttgcg	cctttggcgt	tatcatggtc	acnucngttt	cctgtgttga	720
aattnttaac	cccccaaat	tccangccna	catng			756

<210> 35

<211> 834

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (834)

<223> n = A,T,C or G

<400> 35

ggggatctct	anactnacct	gnatgcctga	ttgtcgggtg	ggcgcctgct	gatgaanattg	60
aacaggatct	tgcctcttga	gctctcggct	gctgtnttla	agtgtctcag	tctgctgtca	120
tagtcagaca	cncctcttgg	caaaaaacan	caggatntga	gtcttgattt	caactccaat	180
aatcttcngg	gctgctctgc	cgttgaactc	gatgacnang	ggcagctggc	tgtgtntgat	240
aaantccanc	angttctcct	tggtagactc	cccttcaaa	ttgttccggc	cttcatcaaa	300
cttctnnaan	angannancc	candtttgtc	gagctggnat	ttgganaaaca	cgtcacrgct	360
ggaaactgat	coccaatggc	atgtcatcca	tgccttctgc	tgcctgcaaa	aaacttgcct	420
ggcncaaatc	cgactcncn	tcttctgaag	aagccnatca	cacccccctc	cctggactcc	480
nncaaagact	ctnccgctnc	ccntccnng	cagggttggc	ggcannccgg	gccccgtgc	540
ttcttcagcc	agttcactat	ntctctcagc	cctctgcca	gctgttntat	tcttgggggg	600
ggaanccgtc	tctcccttcc	tgaannaact	ttgaccgtng	gaatagccgc	gntctcncnt	660
acntnctggg	ccgggttcaa	antccctccn	tttncntcn	cctcggggcc	ttctggattt	720
nccnaacttt	ttctctcccc	cncctcncgg	ngtttggntt	tttcatnggg	cncctaactct	780
gctnttggcc	antcccttgg	gggcnctntn	cncctcctnt	ggcctcctng	ggcc	834

<210> 36

<211> 814

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (814)

<223> n = A,T,C or G

<400> 36

cggncgcttt	cnnqccygc	cccgtttcca	tgannaaggc	tcccttcang	ttaaatctnn	60
cctagnaaac	attaatgggt	tgctctacta	atacatcata	cnaaccagta	ngcctgccca	120
naacgccaa:	tcagggcatt	cctaccaaa	gaagaaaggc	tggctctctc	acccctgtta	180
ggaaaggcct	gccttctaag	accccaaat	ncggctgaat	ctnaagcttt	gtgttttact	240
aatggaaeee	aaaaataaac	aanagggttt	gttctcctgg	utgcccaccc	cagcctggca	300
ctaaaacanc	ccagcgctca	cttctgcttg	ganaaatatt	ctttgctctt	ttggacatca	360

ggcttgatgg	tatcactggc	acntttccac	ccagctgggc	nccttcccc	catnttlgtc	420
antgancttg	aggccctgaa	ncctagtctc	caaaagtctc	ngccracaag	accggccacc	480
agggggangtc	ntttncagtg	gatctgucuu	anantaccn	tatcatcnn	gaataaaag	540
gccccggaa	ganatgttc	cancanccct	taagccct	aatccctngaa	ccatggtg	600
cttcgggtct	gatccnaaag	gaatgttct	gggtccant	ccctctttg	ttcttactg	660
tgtnttgga	ccntgctngn	atnaccaan	tganatcccc	ngaagcacc	taccctggc	720
atttganttt	cntaaattct	ctgcccctacn	netgaaagca	cnatccctn	ggcncnaa	780
ggngaectca	agaaggtctn	ngaaaaacca	cnen			814

<210> 37

<211> 760

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}...{760}

<223> n = A,T,C or G

<400> 37

gcattgtgt	cttctcaaa	gttgttcttg	ttgcataaac	aaccaccata	ggtaaagcgg	60
gcgtagtgt	cgctgaagg	gttgtagtar	cagcgaggga	tgtctctct	gcagagtct	120
gtgtcttgca	ggtccacgca	atgacctttg	tcatctggga	aatggatg	ctyggagctg	180
tcaaanccac	tctgtatct	tccacangca	gcctctccg	aggctccgg	gcagtgggg	240
gtgtcgtca	actccactaa	actgtcgatn	cancagccca	ttgttgcagc	ggactgggt	300
gggtgcacag	gtgccagaa	acactggatn	ggcctttcca	tgggaaggcc	tgggggaaat	360
cnctnancnc	caaaactgct	ctraaaggcc	accttgcaaa	cccgacagg	ctaggaatgc	420
actcttcttc	craaaggtag	ttgttcttgt	tgcacaagca	ncctccancc	naccaaanc	480
ttgcaaaatc	tgtctcgttg	gggtcatnnn	taccanggtt	ggggaanana	accnggcngr	540
ganccnccct	gtttgaatgc	naaggnaata	atctctctgt	cttgccttggg	tygaanagca	600
caattgaact	gttaacnttg	gyccnggttc	cnctnggggtg	gtctgaact	aatcacggtc	660
actggaaaaa	ggtangtgcc	ttcttgaat	tcccaaanct	ccctngnttc	tgygtnttt	720
ctctctnacc	ctaaaaatcg	tnttccccc	cntangggc			760

<210> 38

<211> 724

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}...{724}

<223> n = A,T,C or G

<400> 38

tttttttttt	tttttttttt	tttttttttt	tttttaaaaa	ccccctccat	tgaatgaaaa	60
cttccnaaat	tgtccaaacc	cttccnccaa	atnucattt	ccgggggggg	gttccaaacc	120
caaatataat	ttgganttta	aattaaatnt	tnattngggg	aancaancaa	atgtnaagaa	180
aatttaacc	attatnaact	taaatnccn	gaacccttg	gnttccaaaa	atttttaann	240
cttaaatccc	tcogaaattg	ntaanggaaa	accaaattcn	cctaaggctn	tttgaaggtt	300
ngatttaaac	ccccctnanc	tntttttacc	cnngnctnaa	ncatttngnt	tcgggtgttt	360
tcc(nlttaa)	cntnggtaac	tcccgntaat	gaanuncct	aanccaatta	aaacgaattt	420
tttttgaatt	ggaaactccn	nggggaattna	ccgggggttt	tcuontttgg	gggcatncc	480
ccccctttcc	gggtttgggn	ntagggttgaa	tttttnnang	ncccaaaaaa	ncctccaaaa	540
aaaaaactcc	caagntttaa	ttngaatttc	cccttcccca	ggcctttttg	gaagggggg	600

```

tttntggggg ccnngggantt cnttcccnm ttnccnccuu ccccccnggt aaanggttat      660
ngnntttgggt ttttggggccc cttnangaac ctcccggaatn gaaattaaal ccccgggnccg      720
gccg                                          724

```

```

<210> 39
<211> 751
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1) ... (751)
<223> n = A,T,C or G

```

```

<400> 39
tttttttttt tttttcttctg ctcaacattta atttttatct tgattttttt taatgctgca      60
caacacacata tttatttcac ttgtttctct tatttcattt tatttgtttg ctgclgctgt      120
tttattttatt tttactgaaa gtgggggggga aottttctgtg ccttttttcc tttttctgta      180
ggcgcgcctta agctttctaa atttggaaaca tctaaagcaag ctgaanngaa aaggggggttt      240
cgcaazatea ctgggggggaa nggaaaggtt gctttgttaa tcatgacctt tgytgggtga      300
tcaactgctt gtacacattac ntttcacttt taattaatct tgcnaange tttaatane      360
cttgggggtt cctcccccac acaaaccccn ctgacaaaaa gtgcengccc ccaaatnatg      420
tcccggnnt ctttgaacaa caungcngaa ngttctcatt ntcccnccc caggtnaaaa      480
tgaagggtta ccatntttta cncacactcc acttggcnnn gcctgaatcc tcnnaaanen      540
cctcaacn aatnctnnng ccccggtcnc gentngtcc cnccggggt ccgggaantn      600
caaccccgga annccntncc naacnaaatt cggaaatat tcccnctnc tcaattcccc      660
cnnagactnt cctnnnman cncaatttt ttttntcac gaacnccnnc cunaaatgn      720
nnnnccctc cncngtccn naatnccan c                                          751

```

```

<210> 40
<211> 753
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1) ... (753)
<223> n = A,T,C or G

```

```

<400> 40
gtgggtattt ctgtaagatc aggtgttctt cctctgtagg tttagaggaa acacccctcat      60
agetgaaaaa ccccccagaa cagcagcact gcaactgccg agcagccggg gtaggagggg      120
cgccctatgc acagctgggc ccttgagaca gcagggttc gatgtcaggc tcyatgtcaa      180
lggtctggaa gggcggtctg tacctgcgta ggggcctacc gtcagggtcc accaggaact      240
tctcaaagt. ccaggcaacn tggltggac acaccggaga ccgggtgatn agcttgggg      300
cyytontaan cgcggtggcg tegtgcctgg gggctggcag ggctcccgcc aggaaggcna      360
ataaaaggta cgcgcccgca cggttcanct cgcacttctc naanaccatg angttgggct      420
cnaacccacc accanncgg acttctctga nggaattccc aaatctcttc gntcttgggc      480
ttctactgat gccctanctg gttgcctcng atgccaancc ncccaancc cgggggtcc      540
aancaacccn cttctctnct tcatctgggt tnttntcccn ggactnlggt tctctcaag      600
gyancccata tctnaccan tactcaent nccccccent gnnacccanc cttctannn      660
t.cccncccg nccctctggcc cntcaaanan gcttncacne cctgggtctg ccttcccccc      720
tncctatct gnaccccncc tttgtctcan tnt                                          753

```

```

<210> 41

```

<211> 341
 <212> DNA
 <213> Homo sapien

<400> 41
 actatctcca tcaaaaga catgcttcat cccatagact tottgacata gcttcaaatg 60
 agtgaaccca tcttggattt atatacatat atgtttctcag tattttggga gcttttcuac 120
 ttctttaaac cttgttccct atgaacactg aaataggaa tctgtgaaga gttaaaaagt 180
 tategcclgl ttacgtagta agtttttga gttctacattc aatccagaca cttagtccag 240
 tgttaaacctg tgatttttca aaatatcat ttgagaatat tctttcagag gtattttcat 300
 ctttactttt tgaattattg tgtttctatc attagggtag t 341

<210> 42
 <211> 101
 <212> DNA
 <213> Homo sapien

<400> 42
 acttactgaa tttggttctg tgcctcttcc tatttagtgt tgtaccataa atactttgat 60
 gtttcacaca ttctaaataa ctatatttca gtgggttcat a 101

<210> 43
 <211> 305
 <212> DNA
 <213> Homo sapien

<400> 43
 acatctttgt taccgtctaa gatgtgttct caaatcaca ttccttcccty gtcctccccc 60
 tccagggctgg tctcacactg taattagagc tattgaggag tctttacagc aaattcagat 120
 tcagatgccf tgcatagtct agagttctag agttatgttt cagaaagttt aagaaaccca 180
 cctcttgaag ggtcagtaaa gaggaattaa tatttcatat ctacaaaatg accacaggat 240
 tggatacaga acgagagtta tcttgataa ctccagagctg agtaactgcc cggggggccc 300
 t:ga 305

<210> 44
 <211> 852
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(852)
 <223> n = A,T,C or G

<400> 44
 acataa&at cagagaaag tagtctttga aatattttag tccaggagtt ctttqtttct 60
 gattattttg tgtgtgtttt ggtttgtgtc caaagtattg gcagcttcag ttttcatttt 120
 ctctccatcc tggggcatcc ttcccaatt tatataccag tottcgtcca tccacargct 180
 ccagaatttc totttttag taatatccta tagctcggtc gagcttttca taggtcatgc 240
 tgcgtgtgtt cttcttttta ccccatagct gagccactgc ctctgatttc aagaacctga 300
 agacgcctc agatcggtct tcccatttta ttaacctgg gttcttgtct gggttcaga 360
 ggtatgtcgc gatgaattcc cataagttag tccctctcgg gttgtgtctt ttggtgtggc 420
 acftggccag ggggtcttgc tcttttttca tatcaggfca ctctgcacaa ggaaggtgac 480
 tgggtggttgt catgagatc tgagcccggt agaaagtatt gctgtccaac aaatctactg 540
 tgctaccata gtgggtgtca tctaatagt cctngtcttt ccaggtgttc atgatggaag 600

gctcagtttg	ttcagtccttg	acuatgarat	tgtgltctga	ctggacacagg	tcactactgc	660
actggccgll	ccacttcaga	tgctgcacgt	tyctgtagag	gagntgcccc	gccgtccctg	720
ccgcacgggt	gaactcctgc	aaatccatgc	tgcaaacgtg	ctcgccgttc	atgtcgaact	780
cctggaaagg	gatacaattg	gcacccagct	ggttggtgtc	ckggaggtga	tggagccact	840
cccaacactg	gt					852

<210> 45

<211> 234

<212> DNA

<213> Homo sapien

<400> 45

acacacagacc	cttgcctgct	aaagacctca	tgctcatcaa	gttggccgaa	tcgtgtccg	60
agtcctgacac	catccggagc	atcagcattg	cttcgcagtg	ccctaccgag	gggaaactct	120
gcctcgtttc	tggttggggt	ctgctggcga	acggcagact	gcctaccgtg	ctgcagtgcg	180
tgaacgtgtc	ggtggtgtct	gaggaggctc	gcagtaagtc	ctatgacccg	ctgc	234

<210> 46

<211> 590

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(590)

<223> n = A,T,C or G

<400> 46

actttttatt	taaatgttta	taaggcagat	ctatgagaat	galagaaaac	atgggtgtga	60
atttgatagc	aatatttttg	agattacaga	gttttagtaa	ctaccaatta	cacagttaaa	120
aggaagataa	tatatccaa	gcnatacaa	aatatctaat	gaaggatcaa	ggcaggaaaa	180
tgantataac	taattgacaa	tggaaaatca	atttcaatgt	gaattgcaca	ttatcrttta	240
aaagotttca	aaanaaenaa	ttattgcagt	ctanttaatt	caaacagtgt	taaatgggat	300
caggataaen	aaactgaagg	canaaagant	taatttccac	ttcatgtaac	ncacccanac	360
ltacaaatggc	ctaaatgcac	gganaaagca	gtggaagtag	ggaaglaato	aaggtcttcc	420
tggtctctaa	ctcgccttac	cttttgggtg	tggcttctga	ccctcggaga	cagctgccag	480
ggctcctgtt	atatccacaa	tcccagcagc	aaagatgaag	gatgaaaagg	gacacatgct	540
gccttccctt	gaggagactt	catctcactg	gccaaactcc	agtracatgt		590

<210> 47

<211> 774

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(774)

<223> n = A,T,C or G

<400> 47

acaaagggggc	ataatgaagg	agtggggana	galcttanaag	aagggaadad	aacgaggccc	60
tgaacagaaat	tttccctgnac	aacggaggtt	caaaataaatt	ttcttgggga	gattcaagac	120
gcttccactgc	ttgaacctta	aatggatgtg	ggacannatt	ttctgtaatg	acccctgagg	180
cattacagac	gggactctgg	gaggaaaggt	aaacagaaag	ggacaaaagg	ctaatcccaa	240
aacatccaaag	aaaggaaaggt	agugtcatac	ctccuagcct	acacagttct	ccagggtctc	300


```

cttcatccct: ggaaggacgac agtggaggga ccaactgacca tgtcccccgg ctccctgctg 360
ctggctcctg gtcttcagcc cccagctctg gaagccccc ctctgtgat ccttgcgtggc 420
ccacactcct. tgaacacaca tccccaggtt atattcctgg acatggctga acctcctall 480
cctacttccg agatgccttg ctccctgong cctgtcaaaa tcccaactcar cctcccaacc 540
acggcatggg aagcctttct gacttgcttg altactccag catcttggaa caatccctga 600
ttccccactc cttagaggga aagatagggtg gtttaagagta gggctggacc acttggagcc 660
aggtctgttg cttcaacttc tggtctatct acgaactatg ggaccttggg caagtactct 720
tcacttctat gggcctcatt ctgtttctac tgcataaatgg gggataataa tagt 774

```

```

<210> 48
<211> 124
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> {1}...{124}
<223> n = A,T,C or G

```

```

<400> 48
cnaaaattga aatttctatc aaaggcattt tctcttata tccataaaal gatataattt 60
ttgcaantat aaaaatgtgt cataaettat aatgttcctt aallacagct caacgcaact 120
tggt 124

```

```

<210> 49
<211> 147
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> {1}...{147}
<223> n = A,T,C or G

```

```

<400> 49
gcgatgcta ccatcttatt ggaaggagtg ggggtgttt tattattctc tcaucagctt 60
tgtggctaca ggtggtgtct gactgcatna aaaaatttt tccgggtgat tgcataaatt 120
ttagggcacc catatcccaa gcaatgt 147

```

```

<210> 50
<211> 107
<212> DNA
<213> Homo sapien

```

```

<400> 50
acattatatt aataaaggga ctgttggggc tctgtcaaaa cacatggctt gatataattgc 60
atgggttagg gttaggaggga gttaggcata tgttttggga gagggggt 107

```

```

<210> 51
<211> 204
<212> DNA
<213> Homo sapien

```

```

<400> 51
gtctaggga gtctaggga cacacgactc tgggttacc gggccacac acttgcacgg 60

```

```

cgggaaaggaa aggcagagaa glgacacccgt cagggggggaa tgcacgaaag gaaactcaag 120
gacctcgcaag glcagaaagg ggactcaggg cllccaccac agccctgccc cacttggccc 180
cctccctttt gggaccagca atgt 204

```

```

<210> 52
<211> 491
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(491)
<223> n = A,T,C or G

```

```

<400> 52
acaaagataa cclttatctt ataacaanaa lttgatagtt ttaaaggltt gtatttgtta 60
gggtattttt ccaagacta aagagatanc tcaggtaaaa agttcgaaat gtataaazca 120
ccatcagaca gggttttttaa aaacaacata ttacaaatct agacaatcat ccttaaaaaa 180
aaaactctct gtatcaattt ctttctgtta aattgactga cttaattatt ttttaatttt 240
tcnaaaacac ttctcctaaa attttcaana tggtaagctt canatgttnc ctcaagtcct 300
atgttgctca gataaataaa tctcgtgaga aettaccacc caccacaagg tttctggggc 360
atgcaacagt gtattttctt tttttttct ttttttttt ttacaggcac agaaactcat 420
caattttatt tggataaana agggctctca aatttatatt aaaaataant ccaagttaet 480
atcattcttg t 491

```

```

<210> 53
<211> 484
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(484)
<223> n = A,T,C or G

```

```

<400> 53
acataattta gcagggtca ttaucataag atgctatttca ttaanaggtn tatgatctga 60
gtatttaacag ttgctgaagt ttggtatttt tatgucagcat ttctcttttg ctttgataac 120
actacaganc ctttaaggac actgaatatt agtaagttaa gtccagaaac attagctgct 180
caatcaaatc tctacataac actatagtaa ttaaaacgtt aaaaaaagt gttgaaatct 240
gcactagtat anaccgctcc tgcaggata anactgctt ggaacagaaa gggaaaaaac 300
agctttgank ttctttgtgc tgataggagg aaaggctgaa ttaatttgtt gctctccct 360
aatgattggc aggtcnggtt aatnccaaa catattccaa ctcaacactt cttttccncc 420
tancctgant ctgtgtattc caggancagg cggatggaat gggucagccc ccggaatgtc 480
cant 484

```

```

<210> 54
<211> 151
<212> DNA
<213> Homo sapien

```

```

<400> 54
actaaacctc gtgcttgtga actccataca gaaaacgggt ccatccctga acccggtgg 60
ccactgggtt tactgtgac aacggcaac acaaaaacac aatcccttg cactggntag 120
tctatgtcct ctcaagtgcc tttttgtttg t 151

```

<210> 55
 <211> 91
 <212> DNA
 <213> Homo sapien

<400> 55
 acctggcttg tctccgggtg gtccccggcg ccccccacgg tccccagAAC ggacacttcc 60
 gccctccagt ggatattcga gccaaagtgg t 91

<210> 56
 <211> 133
 <212> DNA
 <213> Homo sapien

<400> 56
 ggccggctgtg cgttgggttat ataccatata gtcatttlat gtaagggact cgagtatact 60
 tggatttttg gtatctgtgg gttgggggga cgttcacgga accaataacc catggatacc 120
 aagggaacac tgc 133

<210> 57
 <211> 147
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(147)
 <223> n = A,T,C or G

<400> 57
 actctggaga acctgagcgc ctgctccgcc ttggggatga ggtgatgcan gngtggcgc 60
 gactgggagc tgagcccttc ccttggcgcc tgcctcagag gattgttggc gaentgcana 120
 tctcantggg ctggaatncat gcagggt. 147

<210> 58
 <211> 198
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(198)
 <223> n = A,T,C or G

<400> 58
 acagggatat aggtttnaag ttattgttat tgcacaatan attgaatttt ctgtatactc 60
 tgattacata catctatcct ttacaaaga tgaatctt aatttttatg ccatttatte 120
 attaacraet gyyttacett gtaaatgaga agtcatgata gcactgaatt tcaactagtt 180
 ttgacttcta agttcagt 198

<210> 59
 <211> 330
 <212> DNA
 <213> Homo sapien

<400> 59

acacacacatg ggttctgagg aagctcttate agcaaaacag gtgatggcta ctgaaaagat	60
ccattgaaaa ttatcattta tgattttaaa tgcacagtta tcaaaaaoto actcaatttt	120
cacctgtgct agcttcttaa aatgggggtt aactctagag caaatatagt atcttttgaa	180
tacagtcatt aatggacaaa gccagggcct acaggtggtt tccagacttt ccagacuuag	240
ccagagggat ctattttatc acatggatct ccgtctgtgc tcaaaatacc caatgatatt	300
ttctgtcttt atgggacttc ttgaagagt	330

<210> 60

<211> 175

<212> DNA

<213> Homo sapien

<400> 60

acggtaggggtg ccttctacat tcttgacggc tctttcacca acatctgggt ctacttggg	60
gtcgtggggt ccttctcttt cactctcctc cagctggtag tctctatcga ctttgcgac	120
tcttggaacc agcgggtggt gggcaaggcc gaggagtgcg attcctgtgc ctggc	175

<210> 61

<211> 154

<212> DNA

<213> Homo sapien

<400> 61

acccactttt tcttctgtg agcagttctg acttctcct gctacatgat gaggttgagt	60
ggttgttctt ctctcaccgt atctctcctt tcccggtat gctgagcagg acagcagtc	120
tggactgcac agcccccggg ctccacattg ctgt	154

<210> 62

<211> 30

<212> DNA

<213> Homo sapien

<400> 62

cgtctgagcc ctatagttag tcttattg	30
--------------------------------	----

<210> 63

<211> 89

<212> DNA

<213> Homo sapien

<400> 63

acaagtcatc taagcaccct ttgcctctta aaactgacca tcttttatat ttaattgttc	60
ctgtatgaat aaaaatggtt atgtcaagt	89

<210> 64

<211> 97

<212> DNA

<213> Homo sapien

<400> 64

acggagagta ctgagtggg acgtctaatc tgaatccacc aataaatcaa gttctctgag	60
atcagtgca tccaggattg gtcttgggt ctgggt	97

<210> 65
 <211> 377
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1) ... (377)
 <223> n = A,T,C or G

<400> 65
 acaacaanaa ntcccttctt taggcacttg atggaaacct ggaacccctt ttgatggca 60
 gcctggcgct ctaggccttg acacagcggc tgggggtttgg gctntcccaa accgcacacc 120
 ccaacccctgg tctacccaca ntctctggcta tgggctgtct ctgcacttga acatcagggc 180
 tggglcataa natgaaatcc caanggggac agaggtcagt agaggaagct caatgagaaa 240
 ggtgctgttt gctcagcccg aaacacagctg cctgguatcc gccgctgaau tatgaacccg 300
 tgggggtttaa ctaccccaan gaggaatcat gctggggcga tguanggtg ccaacaggag 360
 gggcgggagg agcatgt 377

<210> 66
 <211> 305
 <212> DNA
 <213> Homo sapien

<400> 66
 acgcctttcc ctacgaattc agggaaagaga ctgtcgactg ccttctctcg ttgttgcgctg 60
 agaacccgtg tgcctcttcc caccatatac accctctgctc catctttgaa ctcaaacacg 120
 aggaartaac tgcacccctgg tctcttcccc agtccccagt tcaaccccca tctctcaact 180
 tctctcactc taaggggtat caacactgac cagcacaggg gccctgaatt tatgtggctt 240
 ttatatattt tttaataaga tgcacttlat gtcatctctt aatcaagctc gaagaattac 300
 tgttt 305

<210> 67
 <211> 385
 <212> DNA
 <213> Homo sapien

<400> 67
 actacacaca ctccactcgc cctctgtgaga cactttgtcc cagcacttta ggaatgctga 60
 ggtcggacca gccacatctc atgtgcacga ttgccacga gacctcaggt ctgagagctc 120
 cctttttaaa aaaggggact tctttaaaaa agaagtctag ccargattgt gtgagcagc 180
 tgtgctgtgc tggagattca cttttgagag agttctctct tgaacactga tctttagagg 240
 ctgggcagtc ttgcacatga gatggggctg gtctgatctc agcactcctt agtctgcttg 300
 cctctccag ggccccagcc tggccacacc tgcctacagg gcactctcag atgcccatc 360
 catagttctt gtgclagtgg accgt 385

<210> 68
 <211> 73
 <212> DNA
 <213> Homo sapien

<400> 68
 acttaacag atatatcttt acccagatg gggatctct ttgtaaaaa tgaanataaa 60
 gtttttttaa tgg 73

<210> 69
 <211> 536
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(536)
 <223> n - A,T,C or G

<400> 69
 actagtccag tgtgggtggaa ttccattgtg ttggggggtc tcacctctct ctccctgcagc 60
 tccagctttg tgcctctgct ctgaggagac catggcccag catctyagta cccctgctgct 120
 cctgctggcc acctagctg tggccttggc ctggagcccc aaggaggagg ataggataat 180
 cccgggtggc atccataacg cagacctcaa tcatgagtggt gtacagcgtg ccccttcaatt 240
 cgccttcagc gagtataana aggcaccua agatgactac tacagacgtc ccttgcgggt 300
 actaagagcc aggcacacga ccgttggggg gctgaattac ttcttcyagc tagaggtggg 360
 ccgacccata tgtaccaagt cccagcccaa cttggacac tgtgcttctc atgaacagcc 420
 agaactgcag aagaaccagt tgtgctcttc cagatctac gaagttccct ggggagacac 480
 gaaggtccct ggtgaaatc caggtgtcaa gaactctan ggtctgttg ccaggc 536

<210> 70
 <211> 477
 <212> DNA
 <213> Homo sapien

<400> 70
 atgaccccta acagggggcc tctcagccct cctaattgac tcgggcttag ccttgtgatt 60
 teacttccac tccctccacg tctctatant aggcctacta accaacacac taacctatac 120
 ccacatgagc cgcgatgtaa cangagaaag cacataccac ggcacccaca caccacctgt 180
 ccacaaaggc cttcgatagc ggataatccc atttattacn tcagaagttt tttctctcgc 240
 agggatlttt ctgagccttt taccactcaa gcttagcccn taccucccaa ctaggagggc 300
 actggccccc aacaggcatc ccccgctaa atcccctaga agtccactc ctanacacat 360
 ccgattactc cgcctcagga gtatcaatc cctgagctca ccatagtcta atagaaaca 420
 accgaaccca aattattcaa agcactgctt attacaattt tactgggtct ctatttt 477

<210> 71
 <211> 533
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(533)
 <223> n - A,T,C or G

<400> 71
 agagctatag gtacagtgtg atctcagctt tgcacacaca tttcttccat agatagtact 60
 aggtattaat agatatgtaa agaaagaaat cacaccattc ataatggtaa galaggttta 120
 tgtgatttta gtggtatctt tggcaccctt atatatgttt tncaaacttt cagcagtgat 180
 attatttccn taacttaaaa agttagtttg aaaaagaaa tctccagcaa gctctcatt 240
 taaataaagg ttctgtcact ttaaaaatcc agcaatatgt gcttttttaa aaaagctgtc 300
 aaatgggtgt gacccactca atcaattatta gaaatccatt taaaaacatc ggttacctca 360
 agtcagtttg ccttgaaaaa tatcaaatat aactcttaga gaaatgtaca taaaggaatg 420
 cttcgtaatt ttggagtang aggttccctc ctcaatcttg tatctttaa aagtcacatgg 480
 taaaaaaac aaatttcaac agtatataag gctgtaaaat gaaagaaatt gcc 533

<210> 72
 <211> 511
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(511)
 <223> n = A,T,C or G

<400> 72
 tatatacggaa aaacacacca cataattcaa ctanvaaaaga anactgcttc agggcgtgta 60
 aatgaaagg cttccaggca gttatctgat taaagaacac taanngaggg acaaggctaa 120
 aagccggcagg atgtctacac tatancaggc gctatttggg ttggctggag gagctgtgga 180
 aaacatggan agattggtgc tgganacgc cgtggctatc cctcattgtt attacaaagt 240
 gaggttcctt gtgtgcccac tggtttgaaa accgttctnc aataatgata gaatagtaca 300
 cccatgagaa ctgaaatggc ccaaacuccg aaagaaaagg ccaatagatc ctnagaannac 360
 gcttcttaggg acaataaccg atgaagaaaa galggtctcc ttgtgcaccc gtctgttatg 420
 atttctctcc attgcagcna naaacccgtt cttctaagca aacvucaggtg atgatggcua 480
 aaatacaacc cctcttgagg naccnggagg a 511

<210> 73
 <211> 499
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(499)
 <223> n = A,T,C or G

<400> 73
 cagtgcacagc actggtagca gtaccagtae caataacagc gacagtgcca gtgcacagac 60
 cagtggatggc ctacagtctg gtgcccagcc gacggccact ctacacattg ggctcttcgc 120
 tggccttggg ggagccaggt ccagcaccag tggcagctct ggtgcctgtg gtttctctca 180
 caagtgaagt tttagatatt gttactcttg ccagcttttc tcttcaaggc aggggtgcac 240
 ctacagaaac tactcaacac agcactctag gcagcncaca tcaatcaatt gaagctgaca 300
 ctctgcattc atctatttg ccaattctga aaaaaaaaaa aaaaaaaggg cggcgcctcg 360
 antctagagg gcccgcttca acccgctgat cagcctcgac tgtgccttct anttgcacgc 420
 catctgtctt ttgccctcc ccgntgctt ccttgacc tggaaagtgc cactccnact 480
 gtctcttctt aantaaat 499

<210> 74
 <211> 537
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(537)
 <223> n = A,T,C or G

<400> 74
 tttcctaggg gaacacactg aggagatacl thangaattt ggaattcagcc gcaagagat. 60

```

ttatcagctt: aactcagnta aaatcattga aagtaantag gtaaaagcta gtctctaact 120
tccaggccca cggctcaagc gaatttgaat actgcattta cagtgtagag taacacataa 180
cattgtatgc atggaacat ggaggaaacg taltacagtg tcttaccact ctactcaaga 240
aaagaattac agactctgat tclacagtga tgattgaatt claaaatgg taatcattag 300
ggcttttgat ttataanaat ttgggtactt atactcaatt atggtagtla tactgcttr: 360
cagtttgctt gatataattg ttgatattaa gattcttgac ttatattttg aatgggttct 420
actgaaaaan gaatgatata ttcttgaaga cctcagatata catttattla cactcttgat 480
tutacatgtc agaaaatgaa ggaatggcc caatttgtat ggtgatataa gtccct 537

```

```

<210> 75
<211> 467
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(467)
<223> n = A,T,C or G

```

```

<400> 75
caaanacaat tgttcaaaag atgcaaatga tacactactg ctgragctca caaacacctc 60
tgcatactac acgtacctcc tcttgcctct caagtagtgt ggtctatttt gccatcacta 120
cctgctgtct gcttagaaga acggtcttct gctgcabngg agagaaatca taacagacgg 180
tggcacaagg aggcacatct tctctcatcg gttattgtcc ctagaagcgt cttctgagga 240
tctagtctgg cttctcttct ggggttgggc catttcanll ctcatgtgtg tactattcta 300
tcattattgt ataacggttt tcnaaccngt gggcaencag agaacctcac tctgtaataa 360
caatgagga taagccaggt gatctccagc accaaatctc tccatgttnt tccagagctc 420
ctcragcraa cccaaatagg cgtctctatn gtgtggaaca tccctgn 467

```

```

<210> 76
<211> 400
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(400)
<223> n = A,T,C or G

```

```

<400> 76
aagctgacag cattcgggcc gagatgtctc gctcctggc cttagctgtg ctgcgctac 60
tctctcttcc tggcctggag actatccagc gtactccaaa gattcaggtt tactcargtc 120
atccagcaga gaattgaaag tcaaatctcc tgaattgcta tglgtctggg ttctatccct 180
ccgacattga agttgactta ctgaagaatg gagagagact tgaaaaagtg gagcattcag 240
acttctcttt cagcaaggac tggctcttct atctcttgtc ctacactgaa ttcaccccaa 300
ctgaaaaaga tgaatattgc tgcctgtgta acuatgtgac tttgtccag cccaagatng 360
tttagtggga teganacatg taaycagcan catggggaggt 400

```

```

<210> 77
<211> 248
<212> DNA
<213> Homo sapien

```

```

<400> 77
ctggagtggc ttggtgttcc aagcccttgc aggnagcaga atgcaccttc ttaggcacct 60

```



```

ccagctgccc cggcggggga tgcgaggctc ggagcaccct tgcggggctg tgattgctgc      120
caggcactgt tcatctcagc tttctctgct ctttgcctcc ggcaggcgct tctgctgaaa      180
gttcatctct ggagcctgat gtcttaccga ataaaggctc catgctccac ccgaaaaaa      240
aaaaaaa      248

```

```

<210> 78
<211> 201
<212> DNA
<213> Homo sapien

```

```

<400> 78
actagtcag tggagtgga ttccattgtg ttgggcacac cacaatggct acccttaaca      60
tcacccagac ccgcacctgc cngtgcccca cgtgctgct aacgacagta tgatgcttac      120
tctgctactc ggaaacattt tttatgtaac taatgtatgc tttcttgctt ataatgcct      180
gatttcacaa aaaaaaaaaa a      201

```

```

<210> 79
<211> 552
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1) ... (552)
<223> n = A,T,C or G

```

```

<400> 79
tactttctgt aggtttttga gacaacccct gacctaaact gtgtcacaga ctcttgaatg      60
tttaggcagt gctagtcaat tctctgtaat gattctgttc ttacttctct atctttat      120
cctctttctt ctgaagatta atgaagttgc aaattgaggt ggataaatcc aaaaaggtag      180
tgtgatagta taagtatctc agtgccagatg aaagtgtgtt atatctatcc attcaaaatt      240
atgcaagtta gtaattactc agggttaact aaattacatt aatctgctgt tgaacctact      300
ctgttccttg gctagaaaaa attataaaca ggaactttgtt agtttygga gccaaattga      360
taatatctca tgtttcaaaa gttgggctat acctaaanta tnaagaanta tgggatttta      420
ttccacagga tatggggctc atttatgaat antacccggg anagaggttt tgantnaaac      480
cngttttggg taatacgtta atatgtcttn aatnaaccag gcntgactta ttccaaaaa      540
aaaaaa      552

```

```

<210> 80
<211> 476
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1) ... (476)
<223> n = A,T,C or G

```

```

<400> 80
acagggattt gagatgctan ggccccagag atcgtttgat ccaacccctt tattttcaga      60
ggggaaeatg gggcctagaa gtlacagayc atctagctgg tgggctggca cccctaggct      120
cacacagant ccggagttagc tgggactaca ggcacacagt cactgaagca ggccctgttt      180
gcatttcacg ttgccacctc caacttaaac attcttcata tctgatgtcc ttagtcata      240
aggttaaact ttccaccca gaaaaggcaa cttaagataa atcttagagc accttcatac      300
tcttttaagt cctcttcacg cctcactctt agtccctctt gggggttgat aggaantctc      360

```

tcttgggtt. ctcaataaana tctctatcna tctuatgttt aatttgggtac gcntaaaaat. 420
 gctgaaanaa ttaaatgtt clggtttcnc tttaaaaaa aaanaaaaaa aaaaaa 476

<210> 81
 <211> 232
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)... (232)
 <223> n = A,T,C or G

<400> 81
 tttttttttg tatgocntcn ctgtggngtt attgttgcctg ccacccctgga ggagcccagt. 60
 ttctttctga tttttttttt ctggggggtc ttcttgggtc tguccctcca ttccagcct 120
 ctcatccca tcltgcact ttgctagggt tggagggcct ttcttggtag cccctcagag 180
 cctcagtcag cgggaataag tccctaggggt ggggggtgtg gcaagccggc ct 232

<210> 82
 <211> 383
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)... (383)
 <223> n = A,T,C or G

<400> 82
 aggcggggagc agaaagctaaa gccaaagccc aagaaagagtg gcagtgcacag cactgggtgcr. 60
 agtaccagta ccaataacat gccagtgcac gtgccagcac cagtggtygc ttcaagtgcctg 120
 gtgccagcct gaucycoact ctcaactttg ggtctctcgc tggccttggg ggagctgggtg 180
 ccagcaccag tggcagctct ggtgcctgtg gttctccta ccagtgcagat tttagatatt 240
 gttaatcttg ccagtcttct tcttcaagcc aggttgcatc ctcaaaacc tactcaacac 300
 agaacctctg gcagcacta tcaatcaatt gaagtgcaca ctctgcatta aatctatttg 360
 ccatttcnaa aaaaaaaa aaa 383

<210> 83
 <211> 494
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)... (494)
 <223> n = A,T,C or G

<400> 83
 accgaatttg gacgcctggc ttatagcga tcatgtctc cagtattacc tcaacgaaga 60
 gggagatcga gtctatacgc tgaagaaatl tgaucogag ggacaacaga cctgctcagc 120
 ccattctcgt cggttctccc cagatgacaa atactctcga caccgaatca ccatcaagaa 180
 acgcttcaag gtgctcatga ccagcaacc ggcucctgtc ctctgagggt ccttaactg 240
 atgtcttttc tgeracctgt tacucctcgg agactccgta accaaactct tggactgtg 300
 agccctgatg cctttttgac agccatactc tttggontcc agtctctcgt ggcgattgat 360

```

tatgcttctg tgaaggcaatc atggtggcat. caccatnaa gggaaacacat ttganttttt 420
tttcccatat tttaaatcac naccaayata nttcagaata aatgaattga aaacattctta 480
aaaaaaaaaa aaan 494

```

```

<210> 84
<211> 380
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)... (380)
<223> n = A,T,C or G

```

```

<400> 84
gctggtagcc tatggcgtgg ccacggangg gctcrtgagg cacgggacag tgacttcccc 60
agtatcctgc gccgcgtctt ctaccgtccc tccctgcaga tcttggggca gattcccccag 120
gaggaactgg acgtggccct catggagcgc agcaactgct cgtcggagcc cggcttctgg 180
gcacaccctc ctgggggccc ggccgggcacc tgcgtctccc agtatgccaa ctggctgggtg 240
gtgctgctcc tctcatctt cctgctcgtg gccaacatcc tgcctggtcc ttgctcattg 300
ccatgttcag ttaacatttc agcaaatgac agggcaacag cnatctctac tgggaaggcc 360
agcgttccc cctcatccgg 380

```

```

<210> 85
<211> 481
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)... (481)
<223> n = A,T,C or G

```

```

<400> 85
gagttagctc ctccacaaac ttgatgaggt cgtctgcagt ggctctctgc ttcataccgc 60
tncatcgtc atactgtagg tctgcccaca cctcctgcct cttggggcgg ctaatatcca 120
ggaaactctc aatcaagtea ccgtcnatna aacctgtggc tggctctgtc ttcgcgtcgg 180
tgtgaagga tctccagag gagtyctoga tcttccccac acttttgatg actttattga 240
gtcgttctg catgtccagc aggaggttgt accagctctc tgacagtgay gtcaccagcc 300
ctatcatgcc nttgaacgtg ccgaayaaca ccgagccttg tgtgggggtt gtagtctcac 360
ccagcttctg cattaccaga naccgtggc aaaaaganatt gacccctcgc ccaggngaa 420
aaagaacac tcttggaagt gctngccgct cctcgtcunt tggtagngnc gcntacctt 480
t

```

```

<210> 86
<211> 472
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)... (472)
<223> n = A,T,C or G

```

```

<400> 86

```

```

aacatcttcc tgtataatgc tgtgtaatat cgatccgcatn ttgtctgctg agaattoatt      60
atttggaana gaaacttnaa ggcaggccac tggatattaa attcacaala tgaacactl      120
taaacagtgt gtaaalctgc tcccttactt tgtcatcacc agtctgggaa taagggtatg      180
ccctattcac acctgttaaa agggcgclaa gcatttttga tcaacatcl ttttttttga      240
cacaagtcag aaaaagcaca agtaaacag tnttaattl gttagccaat tcactttctt      300
cttgggacag agccatttga tttaaaaggc aaattgcata atattgagcl ttgggagctg      360
atatntgagc ggaagancag ctttctact taccagaca caactccttt catattggga      420
tgttuacnaa agttatgtct ctacagatg ggtatgtttt gtggcaatlc tg      472

```

<210> 87
 <211> 413
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (413)
 <223> n = A, T, C or G

```

<400> 87
agaaaccagt atctctnaaa acaacccctcc atacccttgc gacctaattt tgtgtgctg      60
tgtgtgtgcg agcatattat atagacaggc acatcttttt tacttttcta aaagcttatg      120
ccctcttggg atctatatct gtgaaagtct taatgatctg ccatgaatgtc ttggggacct      180
ttgtcttctg tgaatagtgt actagagaaa acacctctct tatgagtcac tctagttingt      240
tttatctgac atgaaggaaa ttcccgcatn acaaacctna caaactctcc cctgactagg      300
ggggacaaag aaaagcanna ctgaacatna gaaacaattt cctggtgaga aattnacataa      360
acagaaactg ggtngtatat tgaaanang catcattnaa acgttttttt ttt      413

```

<210> 88
 <211> 448
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (448)
 <223> n = A, T, C or G

```

<400> 88
cgcagcgggt cctctctatc tagctccagu ctctcgctcg cccactctcc cgggtccgc      60
gtcctagccn accatygccg ggcccttgcg cgcctccgctg ctcttcttgg ccatcctggc      120
cgtggccctg gccgtgagcc ccgcggcccg ctccagtcct ggcaagccgc cgcgcctggt      180
gggaggcccc tggacccgcg gtggaagaag aagggtgtgc gcgtgcactg gactttgccc      240
tcggenanta caacaaacct gcaacnactt ttacnagcn cgcgctgcag gttgtgccc      300
cccaancaaa ttgttactng gsgtaantaa ttcttgyaag ttgaacctgg gucnaacnng      360
tttaccagaa ccnagccaat tngaacatt nccctccat aacagccctt tttaaaagg      420
gaanacantcc tgnctcttcc caaatttt

```

<210> 89
 <211> 463
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature

<222> (1)...(463)

<223> n = A,T,C or G

<400> 89

gaattttgtg	cactggccac	tgtgatggaa	ccattgggccc	aggtatgcttt	gagtttlatca	60
gtagtgtatt	tgcacaggtt	gggtgttgraa	catgagtatg	taaaatgltca	aaaaatttagc	120
agaggtctag	gtctgcatat	caggcagacag	tttgtcngtg	tattttgtag	cccttgaagtt	180
ctcagtgaca	agtttmttct	gatgcgaagt	tcnatttcca	gtgttttagt	cccttgcattc	240
tttnatgttn	agacttgcct	ctatnaaatt	gcctttgtnt	tctgcaggta	ctatctgttg	300
tttaacaaa	tgaannact	tctctgcttn	gaanatttga	atacttaca	tcnnaaaatn	360
aattctctcc	ccatannaaa	acccanagccc	ttggganaat	ttgaaaaang	gntccttcorn	420
aattcnnana	anttcagntn	tcatacaaca	nnaurigganc	ccc		463

<210> 90

<211> 400

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(400)

<223> n = A,T,C or G

<400> 90

agggattaaa	ggtctntnt	actgtcggac	tgttcannca	ccaaactctac	aggttgcctgt	60
cttccartca	ctgtctgtac	gcctnttaac	ccagactgta	tcttcataaa	tagaacaact	120
tcttcaccag	ccacatcttc	taggaccttt	ttggattcag	ttagtataag	ctcttccact	180
tcctttgtta	agacttcatt	tggtaaaagt	tttaagtttg	tggaaaggua	tttaattgct	240
cgttctctaa	caatgtcttc	tccttgaagt	atttggctga	acaaccacac	tnaagtccct	300
ttgtgcattc	attttaaata	cacttaattg	ggcattggtn	cactcaggta	aattctgcaa	360
gagtcatttg	cttgcaaaag	ttgcgttagt	atatctgcca			400

<210> 91

<211> 480

<212> DNA

<213> Homo sapien

<220>

<221> misc_Feature

<222> (1)...(480)

<223> n = A,T,C or G

<400> 91

gagctoggat	ccaataatct	ttgtctgagg	gcagcanaca	tatncagtgc	catggnaact	60
ggctctaccc	acatgggagc	agcatgcngt	agntatataa	ggtcattccc	tgagtcagac	120
atgcctcttt	gactaccgtg	tgcagtgctt	gggtgatcttc	acacacrtcc	nccgctctt	180
tgtggaaa	ctggcaactg	ncctggaaact	gcaagacatc	acttcaaaat	tcacccacga	240
gacacttgaa	aggtcttaac	aagcgactct	tgcatttctt	tttgtccctc	cggcaccagt	300
tytcaatact	aaccgcctgg	tttgcctcca	tcacattctg	gatctgttagc	tcctggataca	360
tctcctggca	gtactgaaga	acttcttctt	ttgtttcaaa	agcaactctt	gggtgctgtt	420
ngatcagggt	cccatctccc	agtcogaatg	tcacatgggc	atatnttact	tcccacaaaa	480

<210> 92

<211> 477

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(477)

<223> n = A,T,C or G

<400> 92

atauagocca	natccccacc	ogaagatgag	cttattgact	gagaacctga	tcgggtcact	60
ggctccgctg	tagccccagc	gactctccac	ctgctggag	aggttgatgc	tcgactccct	120
ccvaccgagg	cagcagcgag	gcgggtcaat	gaactccact	cgtggcttgg	ggttgacggc	180
taantgcagg	aagaggtcga	ccacctcgag	gtccaccagg	atgcccgact	gtgcggggac	240
tcacagcgaa	ctctcgatg	gtcatgagcg	ggagagcaat	gagcccgagg	gccttcgcca	300
gaaccttcgg	cctgtctctc	ggcgccacct	gcagctgctg	ccgctnacac	tcggctcggg	360
acccaggggc	aaacggcggt	gaacagcgcc	acctcaccga	tgcacctgtg	gtngcgtcc	420
aggaacgggc	ccagcgtgct	caggtcaatg	tcggtgaanc	ctccgcgggt	aattggcg	477

<210> 93

<211> 377

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(377)

<223> n = A,T,C or G

<400> 93

gaacggctgg	accttgctc	gcattgctct	gtctggcagg	ctacacctgg	aagcagctcc	60
agtccgagca	gccccagacc	gctgcggccc	gaagctaaag	ctgcctctgg	ccttcacctc	120
cgctccaatg	cagaccacat	agtgggagca	ctgtgtttag	agctaacagt	gaacactgtg	180
tgatttctct	tgggaatttc	ctctgttata	tagcttttcc	caatgctaat	ttccaaacaa	240
caacaaacaa	ataacatgtt	tgcctgttnc	gttgtataaa	agtatgtgat	tctgtatnta	300
aagaaaatal	tactgttaca	tatactgctt	gcaantctct	tattctattg	tcctctggaa	360
ataatctat	tattaaa					377

<210> 94

<211> 495

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(495)

<223> n = A,T,C or G

<400> 94

ccctttgagg	ggctagggtc	cagttccag	tggagaaac	aggtccaggag	aantgctgc	60
cgagctgang	cagatttccc	acagtgaccn	cagagccctg	ggctcagtc	tctgacctct	120
ccaaggaaag	acacacctct	ggggacatgg	gctggaggac	aggacctaga	ggvaccaagg	180
gaaygcccca	ttccggggct	gtcccccgag	gaggaaggga	aggaggtctg	tgtgcccccc	240
acgaggcaaa	ggccctganc	ccggggatca	nacacctctc	cacgtgcatc	ccacacacaa	300
tguagctca	ccaagggtcc	ctctcagtc	cttccctaca	ccctgaagg	ncactggccc	360
acacccaccc	agancancca	ccccccatgg	ggaatglnct	caaggaaatc	ungggcaang	420
tggaatctng	tcccnnaag	gggcagaatc	tccaatagan	gganngaac	cttgcctana	480

AAAAAAAAAA AAAAA

495

<210> 95
<211> 472
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> {1}... (472)
<223> n = A,T,C or G

<400> 95
ggttacttgg tttcattgoc accacttast ggatgtcatt tagaaccatt ttgtutgctc 60
cctctggaag ccttgcgcag agcggacttt gtaattgttg gagaataact gctgaatttt 120
tagctgtttt gagttgattc gcaccactgc accacaactc aattatgaaa ctatttnact 180
tatttaltat cttgtgaaaa gtatacaatg aaasttttgt tcatactgtt tttatcaaqt 240
atgatgaaaa gcaatagata tatattcttt tattatgttn aattatgatt gccattatta 300
atcggcgaag tgtggagtgt atgttttttt cacaglaata tatgcctttt gtaacttcac 360
tttggttatt tat.tgtaat gaattacaaa attcttaatt taagaaatg gtanngtata 420
tttanttcan taattttctt ccttgtttac gttaatltty aaagaatgc at 472

<210> 96
<211> 476
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> {1}... (476)
<223> n = A,T,C or G

<400> 96
ctgaagcatt tcttcanaact tntctacttt tgtcattgac aactgtagta agttgacaat 60
gtggltgaat ttcaaaatta tatgttaact ctactagtgt tactttcttc cccaagtctt 120
ttttaactca tgattttttac acacacaaac cagaacttcl tatatagcct ctlaagtcttt 180
attcttccaa gtagatgatg aaagagtcct ccagtytctt gngcanaatg ttctagnlat 240
agctggatac ataungtggg agttctctaa actcatacct cagtgggact naaccanaat 300
cgtgtttagc tcaattctta ccaactgag ggaactctcc aactcaatat attcttatct 360
gcaggtatct ctccagaaaa acngacaggy caggtctgca tgaanaagtn acatctgcgt 420
tacaagctct atttccctca nangtctgtt aaggaaactt ttaactttct agcttt. 476

<210> 97
<211> 479
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> {1}... (479)
<223> n = A,T,C or G

<400> 97
actttttcta atgctgatct gatcttgagt ataagaatgc atatgtcact agantggata 60
aatlaatgct gcaaaactaa ttttcttatg caaantggaa cgtcaatgaa acacagctta 120

caatcgcaaa	tcaaaactca	caagtgctca	tctgttgtey	atttagtgta	ataagactta	180
gatttggttc	cttcggatct	gattgtttct	canatcttgg	gcaatntlcc	ttagtcaaat	240
caggctacta	gaattctgtt	atcggatctn	tgagagcatg	aaattcttaa	naatcacatt	300
gtgattatna	aatatctcav	aaatttcact	tatccttgct	atcagcagcl	ayaaaaacat	360
ntnnttttta	natcaaaagta	ttctgtgttt	ggaantgttn	aatcgaaatc	tgaatgtggg	420
ttcnatctta	ttttttcccn	gacnactant	tnctttttta	gggntctctc	tyanccatc	479

<210> 98

<211> 461

<212> DNA

<213> Homo sapien

<400> 98

agtgaattgt	cctccaaacaa	aacccttfga	tcaagtttgt	ggcactgaca	atcagaccta	60
tgttagttcc	tgtcatctat	tggctactaa	atgcagactg	gaggggacca	aaaagggyca	120
tcaactccag	ctggattatt	ttggagcctg	caaatctatt	cctacttgle	cggactttga	180
agtgaattag	tttccctctac	ggatgagaga	ctggctcaag	aatatctcca	tgcagcttta	240
tgaagccact	ctgaacacgc	tggttatcta	gatgagaaac	gagaaataaa	gtcagaaaat	300
ttacotggag	aaaagaggct	ttggctgggg	accatcccat	tgaaccttct	cttgaaggact	360
ttaagaaaaa	ctaccacatg	ttgtgtatcc	tggtagccggc	cgtttatgaa	ctgaccaccc	420
tttgaantaa	tcttgacgct	cctgaacttg	ctcctctgca	a		461

<210> 99

<211> 171

<212> DNA

<213> Homo sapien

<400> 99

gtgggcgggc	gcaggctgtct	cctcgtaccg	cagggcgcgc	tcccttcccc	aggcgctcct	60
cggcgctctc	gaggggccga	ggaggagcgc	ctggcgggtg	gggggagtgt	gacccaccc	120
cggtagaaaa	agccttctct	agcgatctga	gaggcgtgac	ttgggggtac	c	171

<210> 100

<211> 269

<212> DNA

<213> Homo sapien

<400> 100

cggccgcgaag	tgaactcca	gtggggccg	tgcggacgaa	gattctgcca	gcagttggtc	60
cgaatgcgac	gacggcggcg	gcgacagtcg	caggtgcagc	gcgggcgcct	gggtcttgc	120
aaggctgagc	tgaagccgc	gaggtcgtgt	cacgtccca	gaattgacg	ccgtcgggga	180
cagccgggac	agagcccggt	gaagcggggg	gcctcgggga	gccccctcgg	aagggcggcc	240
cagagagatac	gcaggtgcag	gtggccgc				269

<210> 101

<211> 405

<212> DNA

<213> Homo sapien

<400> 101

tttttttttt	ttttggaaac	tactgcyagc	acagcaggtc	aycaacaagt	ttattttgca	60
gctagcaagg	tcauagggta	gggcatgggt	acatgttcag	gtcaacttcc	tttgtctgg	120
ttgattgggt	tgtctttatg	ggggcggggg	ggggtagggg	aaacgaagca	aataacatgg	180
agtgggtgca	cctccctgt	agaacctggt	tacaaagctt	ggggcaggtc	acctggctctg	240
tgaacgcat	ttctttgac	tcaatgttat	tagaagtccg	gntatctttt	agagagtcac	300

ctgttctgga gggagattag ggtttcttgc caaatccaac aaaaatccact gaagaagtgg 360
gclgatcagt acgaataccg aggcataatc tcatatcggt ggcca 405

<210> 102
<211> 470
<212> DNA
<213> Homo sapien

<400> 102
tttttttttt tttttttttt tttttttttt tttttttttt tttttttttt tttttttttt 60
ggcacttaat ccatctttat ttcacaaatgt ctacaaattt aatccattta tanggtattt 120
tcaaaatcta aattattcaa attagccaaa tccctaccaa ataataccca aaaaatcaaaa 180
atatactttt ttcagcaaac ttgttacata aattaaaaaa atatatcagg ctgggtgtttt 240
caaaagtacaa ttatcttaac actgcaaacu ttttaaggaa ctaaaataaa aaaaaaacat 300
ccgcaaggtt taaaggggac aacaaattct tttaaacac cattataaaa atcatatctc 360
aaatctttag ggaatctata ctccacacgg gatcttaact ttacttact ttgtttattt 420
ttttaaaaaa ttgtttgggc ccaacacant ggaatcccc ctggactagt 470

<210> 103
<211> 581
<212> DNA
<213> Homo sapien

<400> 103
tttttttttt ttttttttga cccccctctt ataaaaaaca agttaccatt ttattttact 60
tacacatatt tattttataa ttggtattag atattcaaaa ggcagctttt aaatcaaac 120
taaatggaaa ctgccttaga tacataattc ttgggaatta gcttaaaatc tgcctaaagt 180
gaaatcttct tctagctctt ttgactgtta atttttgact ctgttaaac atccaaattc 240
attttttctg tcttttaaat tatctaattt ttcattttt tccctattcc aagtcatttt 300
gcttctctag cctcatttcc tagctcttat ctactattag taagtggctt ctttcctaaa 360
agggaaaaaa ggaaggaaaa tggcacacaa aacaaacatt ttatatttat atttctact 420
acgttaattt aatagcattt tgtgaagcca gctcaaaaga aggcctagat ccttttatgt 480
ccatttttag cactaaacga tatcaaatgt ccagaatgca aaaggtttgt gaacatttat 540
tcaaaagcta atataagata ttccacatcc tcatctttct g 581

<210> 104
<211> 578
<212> DNA
<213> Homo sapien

<400> 104
tttttttttt tttttttttt tttttctctt cttttttttt gaaatgagga tggagtttct 60
cactctctag atagggcatg aagaaaaact atctttccag ctttaaaata acaatcaaat 120
ctcttatgct atatcatatt ttgaattaaa ctatgagtc actggcttat ctctccctga 180
aggaatctg ttcattcttc tcatctatct agttatctca agtactacct tgcattttga 240
gaggtttttt tctctctatt acacatatac ttccatgtga atttgtatca aacctttatt 300
ttcatgcaaa ctagaaaaata atgtttcttt tgcataagag aagagaacaa tatagcattt 360
caaaactgct caaatgtttt gttaagttat ccattctaat tagttggcag gggctaatat 420
aaatcacatt tarcacagca ataataaac tgaagtacra gttcaaatat caaaataatt 480
aaaggaaacat ttttagcttg ggtataaatt gttcaattcar tttaaaagra tttattagaa 540
tgaattcaca tgttatttat cctagcccaa cacaatgg 578

<210> 105
<211> 538
<212> DNA

<213> Homo sapien

<400> 105

tttttttttt	tttttcagta	ataatcagaa	caatatattat	ttttatattt	aaaattcaca	60
gaaagtgc	ttacatttaa	taaaagtttg	ttctcraaag	tgatcagagg	aattagatat	120
gtcttgaana	ccaatattaa	tttgaggaaa	atccccaaa	atacattaaq	taattatttt	180
agatcatag	agcttgtaag	tgaaagata	aaatttgacc	tcagaaactc	tgagcattaa	240
aaatccacta	ttagcaata	aattactatg	gaattcttgc	tttaattttg	tgatgaatca	300
gggtgtcac	tggtaaaaca	acacattctg	aaggatcacat	tacttagtga	tggattotta	360
tgactcttgc	taatarctgg	atatgggttg	acaaatttct	ctttcttcaa	tttttaagg	420
ggcgagaaat	gaggagaaa	agaaaaggat	tacgcatact	gttctttcta	tggagaggatt	480
agatattgtt	cotttgrcaa	catcaaaaaa	ataataatgt	ttactactag	tgaaacca	538

<210> 106

<211> 473

<212> DNA

<213> Homo sapien

<400> 106

tttttttttt	ttttttagtc	aagtttttat	ttttattata	attaaagttct	tggtcatttc	60
atttattagc	tttgcaactt	acatatttta	attaaagaaa	ctttcttagac	aactgtatua	120
tttataaatg	taaggctgca	ttattgagta	atattttcct	craagagtgg	atgtgtccct	180
tctcccaaca	actaatgaac	agcaacatta	gttttaatttt	attagttagat	atacactgcl	240
gcacaagcta	attctctctt	ccatccccat	gtgatattgt	gcataatgtgt	gagtggtag	300
aatgcacac	aactatcaat	caacagcaag	atgaagctag	gctgggcttc	cggtagaaat	360
agactgtgtc	tgtctgaatc	aaatgatctg	acctatccctc	ggtggcaaga	actcttcgan	420
cgccttcttc	aaaggcgttg	ccacatttgi	ggctctttgc	acttgcttca	aaa	473

<210> 107

<211> 1621

<212> DNA

<213> Homo sapien

<400> 107

cgccatggca	ctgcaggga	tctcggtcat	ggagctatcc	ggcctggccc	cgaggccgctt	60
ctgtactatg	gtcctggctg	acttcggggc	gcgtgtggtg	agcatggacc	ggcccggctc	120
ccgctacgac	gtgagccgct	tgggcccggg	caagcgcctg	ctagtgtctg	acctgaagca	180
gcccgcggga	gocgcgtg	tggggcgtct	gtgcaagcgg	tcgaatgtgc	tgtggagcc	240
cttccgcgc	gggtgtatgg	agaaactcca	gctgggcccc	gagattctgr	aggcgggaaa	300
tccaaggctt	atttatgcca	ggctgagtg	atttgcccag	tcaggaaagt	tctgcccgtt	360
agctggccac	gatatcaaut	atttggtctt	gtcaggtgtt	ctctcaaaa	ctggcagaag	420
tggtagaagt	cgtatgccc	cgtcgaatct	cctggctgac	tttgcgtgtg	gtggccttat	480
gtgtgcactg	ggcattataa	tggctctttt	tgaacgcaca	cgcactgaca	agggtcagg	540
cattgatgca	aatafggtgg	aaagaaacgc	atatttaag	tctttctctg	ggaaaactca	600
gaaatcgagt	ctgtgggaag	cacctcgagg	acagaaacatg	ttggalggty	gagcaccttt	660
ctatacgact	tacgggacag	cagatgggga	attcclggct	gttggagcaa	tgaacccca	720
gttctacgag	ctgctgatca	aaggacttyg	actaaagctt	gatgaacttc	ccaatcagat	780
gagcatggat	gatttgccag	aaatgaagaa	gaaatttgca	gatgtatttg	caaaagaagac	840
gaaggccag	tgggtgtcaa	tctttgacgg	cacagatgcc	tgtgtgactc	cggctctgac	900
ttttgagag	gttgttcac	atgatcacaa	caagggaacgg	ggctcgttta	tcaccagtga	960
ggagcaggac	gtgagcccc	gcctgcacc	tctgctgtta	aaaccccag	ccatcccttc	1020
ttlcaaaagg	gatercttca	taggagaaca	cactgagtag	atacttgang	aatttggatt	1080
cagcgcgaa	gagatttatu	agcttaactc	ag taaatc	attgaaagta	alaagggtaaa	1140
agctagtctc	taactccag	gcccacggct	caagtgaatt	tgaaatctgc	atttacagtg	1200
taggtaaca	catsecattg	tatgcattga	aaacaggggg	aacagtatta	cagtgtocta	1260

```

ccactctaat caagaaaaga attacagact ctgattctac agtcatgolt gaattctaaa 1320
aatgggtatc attagggctt ttgatttata aacttttggg tacttatact aaattatggg 1380
agttattctg ccttcagttt tgccttgatat atttggatgat attaagattc ttgacttata 1440
ttttgaattgg gttctagtga aaaagggaatg atatatctct gaagacatcg atatacattt 1500
attacacttc ttgattctac eatgtagaaa atgaggaat gccacaaatt gtatgggtgat. 1560
aaaagtcatg tgaacaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaana aaaaaaaana 1620
a 1621

```

<210> 108

<211> 382

<212> PRT

<213> Homo sapien

<400> 108

```

Met Ala Leu Gln Gly Ile Ser Val Met Glu Leu Ser Gly Leu Ala Pro
1      5      10      15
Gly Pro Phe Cys Ala Met Val Leu Ala Asp Phe Gly Ala Arg Val Val
20     25     30
Arg Val Asp Arg Pro Gly Ser Arg Tyr Asp Val Ser Arg Leu Gly Arg
35     40     45
Gly Lys Arg Ser Leu Val Leu Asp Leu Lys Gln Pro Arg Gly Ala Ala
50     55     60
Val Leu Arg Arg Leu Cys Lys Arg Ser Asp Val Leu Leu Glu Pro Phe
65     70     75     80
Arg Arg Gly Val Met Glu Lys Leu Gln Leu Gly Pro Glu Ile Leu Gln
85     90     95
Arg Glu Asn Pro Arg Leu Ile Tyr Ala Arg Leu Ser Gly Phe Gly Gln
100    105    110
Ser Gly Ser Phe Cys Arg Leu Ala Gly His Asp Ile Asn Tyr Leu Ala
115    120    125
Leu Ser Gly Val Leu Ser Lys Ile Gly Arg Ser Gly Glu Asn Pro Tyr
130    135    140
Ala Pro Leu Asn Leu Leu Ala Asp Phe Ala Gly Gly Gly Leu Met Cys
145    150    155    160
Ala Leu Gly Ile Ile Met Ala Leu Phe Asp Arg Thr Arg Thr Asp Lys
165    170    175
Gly Gln Val Ile Asp Ala Asn Met Val Glu Gly Thr Ala Tyr Leu Ser
180    185    190
Ser Phe Leu Trp Lys Thr Gln Lys Ser Ser Leu Trp Glu Ala Pro Arg
195    200    205
Gly Gln Asn Met Leu Asp Gly Gly Ala Pro Phe Tyr Thr Thr Tyr Arg
210    215    220
Thr Ala Asp Gly Glu Phe Met Ala Val Gly Ala Ile Glu Pro Gln Phe
225    230    235    240
Tyr Glu Leu Leu Ile Lys Gly Leu Gly Leu Lys Ser Asp Glu Leu Pro
245    250    255
Asn Gln Met Ser Met Asp Asp Trp Pro Glu Met Lys Lys Lys Phe Ala
260    265    270
Asp Val Phe Ala Lys Lys Thr Lys Ala Glu Trp Cys Gln Ile Phe Asp
275    280    285
Gly Thr Asp Ala Cys Val Thr Pro Val Leu Thr Phe Glu Glu Val Val
290    295    300
His His Asp His Asn Lys Glu Arg Gly Ser Phe Ile Thr Ser Glu Glu
305    310    315    320
Gln Asp Val Ser Pro Arg Pro Ala Pro Leu Leu Leu Asn Thr Pro Ala

```

325 330 335
 Ile Pro Ser Phe Lys Arg Asp Pro Phe Ile Gly Glu His Thr Glu Glu
 340 345 350
 Ile Leu Glu Glu Phe Gly Phe Ser Arg Glu Glu Ile Tyr Glu Leu Asn
 355 360 365
 Ser Asp Lys Ile Ile Glu Ser Asn Lys Val Iys Ala Ser Leu
 370 375 380

<210> 109
 <211> 1524
 <212> DNA
 <213> Homo sapien

<400> 109
 ggccagcagggc tgcgcacaggg cctgagcaggg ggcggggggca ggcctcgccag cggggggcccc 60
 gggcctggcc atgcctcact ggcgcacaggg ctgcgcctct acctcgccga cagctgggac 120
 cagtgccagc tggtaggtct caactgcttc ctccctggcg tgggtgccc gctgacccc 180
 ggttctgac accctgggccc cactgtcttc tgcctcgact tcatgggttt cagctgccc 240
 ctgcttcaca tcttcacggc caacaaacag ctggggccca agatcgctat cgtgagccag 300
 atgatgaggg agctgtcttc ctccctcttc tccctcgccg tctggctggc agcctatggc 360
 gtggccacgg aggggctctt gaggccacgg gacagtgact tcccaagtat cctgcgcgc 420
 gtctcttacc gtccctacct gcagatcttc gggcagattc ccagaggaga catggacgtg 480
 gccctcatgg agcacagcaa ctgctgctcg gaccccgct tctgggcaa cctcctggg 540
 gccragggcg gccactgggt ctccacgtat gccaactggc tggtaggtgt gctcctctg 600
 atcttctctg cgtgggccc catcctgctg gtcaacttgc tcatggcctt gttcagttac 660
 acattcggga aagtcacggg caacagcgat ctctactgga aggcgcagcg ttaccgctc 720
 atccgggaat tccactctg gcccgccgtg gcccgccct ttatcgtcat ctcccaactg 780
 cgcctcctgc ttaggcaatt gtgcaggcga ccccgaggcc cccagccctc ctcccgagc 840
 ctgagcatt tccgggttta ccttcttaag gtagccgagc ggaagctgtt aactgggaa 900
 tgggtgcata aggagcaatt tctgctggca cgcctaggg acaagcgga gagcgaactc 960
 gagcgtctga aggcacgtc ccagaagggt gacttggcag tgaacacagc gggacacatc 1020
 cgcaggtacg aacagcgctt gaaagtgtg gagcgaggag tccagcagtg tagcccgctc 1080
 ctgggttggt tggccggggc cctgagccgc tctgctctgc tggcccccag tgggcccga 1140
 cccctgacc tgcctgggtc caaagactga gccctgctgg cggacttcaa ggagaagcc 1200
 ccacagggga ttttctctt agagtgaagg tcatctgggc ctccggccccc gcacctggtg 1260
 gcttctctt tgggtgagc cccatgtcca tctgggccc tgtcaggacc accttggga 1320
 gtgtcatctt taacaaacc agcatgccc gctctccca gaacaggtc cagctggga 1380
 ggatcaaggc ctggatccc ggcgttatc catctgagg ctgcagggtc ctggggtaa 1440
 cagggaccac agacccctca ccatccag attcctcaca ctggggaaat aaagcattt 1500
 caggggaaa aaaaaaaaaa aaaa 1524

<210> 110
 <211> 3410
 <212> DNA
 <213> Homo sapien

<400> 110
 gggaaacagc ctgcacggc tggctccggg tgacagccgc ggcctcggc caggtatctga 60
 gtgatgagac gtgtcccc tgaggtgccc caacagcaga ggtgttgagc atgggctgag 120
 aagctggacc ggcacaaag ggtcggcaga aatgggcgac tggctgattc ctaggcagtt 180
 ggcggcagca aggagagag gccgcagctt ctggagcaga gccgagacga agcagttctg 240
 gagtgcctga acggccctt gggccctacc cgcctggccc actatgggtc agaggtgtg 300
 ggtgagccgc ctgtctgggc accggaaaac ccagctcttg ctggtcaacc tgrtaacctt 360
 tggcctggag gtgtgtttg ccgagggcat cactatgtg ccgctcttg tcttggaggt 420
 gggggttagag gggaggttca tgacratggt gctgggcatt ggtccagtc cgggcttgg 480

ctgtgtcccg	ctcttaggt	cagccagtg	ccactggcg	ggagcctatg	gcccgcgcg	540
gccttcctc	tgggactgt	ccttgggcat	cctgtgagc	ctctttctca	tcccagggc	600
cggctggcta	gcagggtgc	tgtgcccga	tcccaggccc	ctggagctgg	cactgtctcl	660
cctggcgctg	gggctgctgg	acttctgtgg	ccagggtgtg	ttcactccar	tggaygcct	720
gctctctgac	ctcttcggg	acccggacca	ctgtcgccag	gcctactctg	tctatgcctt	780
catyattcgt	cttgggggct	gcctgggcta	cctcctgccc	gcatttgact	gggacaccag	840
tgccttggc	ccctacctgy	gcacccagg	ggagtgcctc	tttggcctgy	tcacctcat	900
cttctcacc	tgcgtagcag	ccactactgt	gggtggctgag	gaggcagcgc	tgggcccacc	960
cagaccagca	gaggggctgt	cggccccctc	cttctcgccc	cactgctctc	catgcggggc	1020
cgccttggct	ttccgggaac	tgggcccctc	gcttccccgg	ctgcaccagc	tgtgctgccc	1080
catgcccgcg	acccctgccc	ggctcttngt	ggctgagctg	tgcagctgga	tggcactcat	1140
gaccttcacg	ctgttttaca	cggatttctg	ggggcagggg	ctgtaccagg	gcgtgcccag	1200
agctgagcgg	ggcaccgggg	cccggagaca	ctatgatgaa	ggcgttcagg	tgggcagcct	1260
gggggtgttc	ctgcagtgcc	ccatctccct	ggctctctct	ctggctcatg	accggctggg	1320
gcagcgatct	ggcactcgag	cagtctattt	ggccagtgctg	gcagctttcc	ctgtggctgc	1380
cggtyccaca	tgcctgtccc	acagtgctgg	cgtggctgaa	gcttcagccc	ccctcaccgg	1440
gttcaccttc	tccagccctg	agatccctgc	ctacacactg	gcttccctct	accacgggga	1500
gagagcaggtg	ttcctgtcca	aataccggag	ggacactgga	gggtgctagca	gtgagggacg	1560
cctgatgacc	agcttctctg	caggccccaa	gctctggagct	cccttccctc	atggacacgl	1620
gggtgctgga	ggcagtgccc	tgcctccccc	cccacccggg	ctctgcccgg	cctctgcccg	1680
tgtatgtctc	gtacgtgagg	tgggtgggta	ggccacccag	ggcagggtgg	ttccggggcg	1740
gggcactctg	ctggacctcg	ccatccctga	tagtgccttc	ctgctgtccc	agggtggccc	1800
atccctgttt	atgggctcca	ttgtccagct	cagccagctc	gtcactgcct	atctgggtgc	1860
tgcngcaggc	ctgggtctgg	tgcctattta	ctttgctaca	caggtagtat	ttgacacag	1920
cgaattggcc	aataactcag	cgtagaacac	ttccagccca	ttggggctga	gggcttgcct	1980
cactgggtcc	cagctccccc	ctcctgttag	ccccatgggg	ctgcccgggt	ggccggccag	2040
ttctgtttgt	gcccagaata	tgtggctctc	tgtctctccc	ctgtgctgct	gagggtgctc	2100
gotgcacagc	tgggggctgg	ggcgtctctc	tctctctccc	ccagctctct	gggctgcccg	2160
actggaggcc	ttcccaaggg	gtttcagctc	ggacttatca	gggtagggcc	gaagggtctc	2220
atgcactgga	atgcggggag	tctgcagggt	gatttcccag	gctcagggtt	gacagctagc	2280
ctcctagtct	agacacacct	agagaagggt	ttttggggag	tgacttacct	cagtcacctg	2340
gtttcccttc	tctaagcccc	ttacccctga	gcttggctta	atgtagctct	tgcctgggag	2400
ttctctaggat	gaaacactcc	tccatgggag	ttgacacat	gacttatttt	tgggggaaga	2460
gtcctgaggg	gcaacacaca	agaaucaggt	ccctcagcc	cacagcactg	tctttttgct	2520
gatccacccc	cttcttacct	tttatcagga	tgtggcctgt	tggctcctct	gttgcctcga	2580
cagagacaca	ggcatttaaa	talttacctt	atttatttta	caagtagaga	gggaattccat	2640
tgttagcttt	tctgtgttgg	tgtctaatat	ttgggtaggg	tgggggattc	ccaaacatca	2700
ggctccctga	gatagctggg	cattgggctg	atcattgcca	gaatcttctt	ctcctggggg	2760
ctggcccccc	aaaatgctca	arccaggacc	ttggaaattc	tactcatccc	aattgataat	2820
tccaaatgct	gttaccacaag	gttgggggtg	tgaagggaag	tagagggtgg	ggcttcagggt	2880
ctcaacgggt	tccctaaoca	ccctctctct	cttggcccag	cctgggtccc	ccacttcca	2940
ctccctctca	ctctctctag	gaatgggctg	atggaaggac	tgcacaaaac	tccctctacc	3000
cccaactttc	cccttcccc	aactttcccc	accagctcca	caacccctgt	tggagctact	3060
gcaggaccag	aagcacaaaag	tycggtttcc	cagccctttg	tccatctcag	cccccagagt	3120
ctatctgtgc	ttggggaatc	tccacacaga	actcaggagc	cccccctgct	tgagctaaag	3180
gaggtcttat	ctctcagggg	gggtttaagt	gctgtttgca	ataatgttgt	cttatttatt	3240
tagcggggtg	aatacttctat	actgtaagtg	agcaatcaga	gtataatgtt	tatggtgaca	3300
aaatttgaag	ctttttttta	tgttttaaaa	aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaaa	3360
aaaaaaara	aaaaaaara	aaaaaaara	aaaaaaara	aaaaaaara	aaaaaaara	3410

<210> 111

<211> 1289

<212> DNA

<213> Homo sapien

<400> 111

agccaggagt	uocctotgeet	gennactbuaq	tggcaacacc	egggagctgt	tttgttcttt	60
gtggagcctc	agcagttccc	tctttcagaa	cttactgcca	agagccctga	acaggagccra	120
ccatgacagt	cttcagcttc	attaagacca	tgatgatcct	cttcaattty	ctcatctttc	180
tgtgtgggtg	agccctgttg	gcagtgggca	tctgggtgtc	aatcgatggg	gcacoccttc	240
tgaagatctt	cgggcoactg	tcgtccaglg	ccatgcagtt	tgtcaacgtg	ggctactttc	300
tcategcagc	cggcgttgtg	gtctttgtcc	ctgggttcc	gggtgtgtat	gggtgctaaga	360
ctgagagcaa	gtgtgacctc	gtgaggttct	tcttcactct	cctcctcate	ttcat.tgctg	420
aggttgacgc	tgtgtgggtc	gccttggtgt	acaccacact	ggctgagrac	ttcctgaggt	480
tgtgtgtagt	gcctgccatc	aagaangalt	atgggtccra	ggaagacttc	actcaagtg	540
ggaacacrac	catgaagggy	ctcaagtgtc	gtggcttca	caactatarg	gatcttgagg	600
actcacccca	cttcnagag	aacagtgcct	ttccccact	ctgttgcaat	gacaacgtca	660
ccaacacagc	caatgaaccc	tgraccaagr	aaaagggtca	cgaccaaaaa	glayagggtt	720
gcttcaatca	gtttttgtat	gacatccgaa	ctaatgragt	caccgtgggt	gggtgtggcag	780
ctggaattgg	gggcttcgag	ctggctgcca	tgattgtgtc	catgtatctg	tactgcaatc	840
tacaataagt	ccactttctg	ctctgcaact	actgctgcca	catgggaact	gtgaagaggc	900
acctgtggca	gcagcagtg	ttggggggag	ggacaggatc	taacaaatgt	acttgggcca	960
gaatggaccl	gcctttcttg	ctccagactt	ggggctagat	agggaccact	ccttttggcg	1020
atgcctgaet	ttctttccat	tgggtgggtg	atgggtgggg	ggcattccag	agcctctaag	1080
gtagccagtt	ctgtttgcca	ttcccccagt	ctalttaacc	cttgatctgc	cccttagggc	1140
tgtgtgtgat	cccagtgctc	tactggggga	tgagagaaag	gcattttata	gacttgggcat	1200
aagtgaatc	agcagagcct	ctgggtggat	gtgtggaagg	cacttcacaa	tgcatataacc	1260
tggtacantg	ctaaaaaaa	aaaaaaag				1269

<210> 112

<211> 315

<212> PRT

<213> Homo sapien

<400> 112

Met	Val	Phe	Thr	Val	Arg	Leu	Leu	His	Ile	Pro	Thr	Val	Asn	Lys	Gln
1				5				10						15	
Leu	Gly	Pro	Lys	Ile	Val	Ile	Val	Ser	Lys	Met	Met	Lys	Asp	Val	Phe
			20					25					30		
Phe	Phe	Leu	Phe	Phe	Leu	Gly	Val	Trp	Leu	Val	Ala	Tyr	Gly	Val	Ala
			35				40					45			
Thr	Glu	Gly	Leu	Leu	Arg	Pro	Arg	Asp	Ser	Asp	Phe	Pro	Ser	Ile	Leu
	50				55					60					
Arg	Arg	Val	Phe	Tyr	Arg	Pro	Tyr	Leu	Gln	Ile	Phe	Gly	Gln	Ile	Pro
65				70					75					80	
Gln	Glu	Asp	Met	Asp	Val	Ala	Leu	Met	Glu	His	Ser	Asn	Cys	Ser	Ser
			85					90					95		
Glu	Pro	Gly	Phe	Trp	Ala	His	Pro	Pro	Gly	Ala	Gln	Ala	Gly	Thr	Cys
			100				105						110		
Val	Ser	Gln	Tyr	Ala	Asn	Trp	Leu	Val	Val	Leu	Leu	Leu	Val	Ile	Phe
	115				120							125			
Leu	Leu	Val	Ala	Asn	Ile	Leu	Leu	Val	Asn	Leu	Leu	Ile	Ala	Met	Phe
	130				135						140				
Ser	Tyr	Thr	Phe	Gly	Lys	Val	Gln	Gly	Asn	Ser	Asp	Leu	Tyr	Trp	Lys
145				150				155					160		
Ala	Gln	Arg	Tyr	Arg	Leu	Ile	Arg	Glu	Phe	His	Ser	Arg	Pro	Ala	Leu
			165				170						175		
Ala	Pro	Pro	Phe	Ile	Val	Il	Ser	His	Leu	Arg	Leu	Leu	Leu	Arg	Gln
			180				185						190		
Leu	Cys	Arg	Arg	Pro	Arg	Ser	Pro	Gln	Pro	Ser	Ser	Pro	Ala	Leu	Gln

195	200	205
His Phe Arg Val Tyr Leu Ser Lys Glu Ala Glu Arg Lys Leu Leu Thr		
210	215	220
Trp Glu Ser Val His Lys Glu Asn Phe Leu Leu Ala Arg Ala Arg Asp		
225	230	235
Lys Arg Glu Ser Asp Ser Glu Arg Leu Lys Arg Thr Ser Gln Lys Val		240
	245	250
Arg Leu Ala Leu Lys Gln Leu Gly His Ile Arg Glu Tyr Glu Gln Arg		255
	260	265
Leu Lys Val Leu Glu Arg Glu Val Gln Gln Cys Ser Arg Val Leu Gly		270
275	280	285
Trp Val Ala Glu Ala Leu Ser Arg Ser Ala Leu Leu Pro Pro Gly Gly		
290	295	300
Pro Pro Pro Pro Asp Leu Pro Gly Ser Lys Asp		
305	310	315

<210> 113

<211> 553

<212> PRT

<213> Homo sapien

<400> 113

Met Val Gln Arg Leu Trp Val Ser Arg Leu Leu Arg His Arg Lys Ala	
1	5
Gln Leu Leu Leu Val Asn Leu Leu Thr Phe Gly Leu Glu Val Cys Leu	10
	15
	20
Ala Ala Gly Ile Thr Tyr Val Pro Pro Leu Leu Leu Glu Val Gly Val	25
35	40
Glu Glu Lys Phe Met Thr Met Val Leu Gly Ile Gly Pro Val Leu Gly	45
50	55
Leu Val Cys Val Pro Leu Leu Gly Ser Ala Ser Asp His Trp Arg Gly	60
65	70
Arg Tyr Gly Arg Arg Arg Pro Phe Ile Trp Ala Leu Ser Leu Gly Ile	75
	80
	85
Leu Leu Ser Leu Phe Leu Ile Pro Arg Ala Gly Trp Leu Ala Gly Leu	90
100	105
Leu Cys Pro Asp Pro Arg Pro Leu Glu Leu Ala Leu Leu Ile Leu Gly	110
115	120
Val Gly Leu Leu Asp Phe Cys Gly Gln Val Cys Phe Thr Pro Leu Glu	125
130	135
	140
Ala Leu Leu Ser Asp Leu Phe Arg Asp Pro Asp His Cys Arg Gln Ala	145
150	155
Tyr Ser Val Tyr Ala Phe Met Ile Ser Leu Gly Gly Cys Leu Gly Tyr	160
165	170
Leu Leu Pro Ala Ile Asp Trp Asp Thr Ser Ala Leu Ala Pro Tyr Leu	175
180	185
Gly Thr Gln Glu Glu Cys Leu Phe Gly Leu Leu Thr Leu Ile Phe Leu	190
195	200
Thr Cys Val Ala Ala Thr Leu Leu Val Ala Glu Glu Ala Ala Leu Gly	205
210	215
Pro Thr Glu Pro Ala Glu Gly Leu Ser Ala Pro Ser Leu Ser Pro His	220
225	230
Cys Cys Pro Cys Arg Ala Arg Leu Ala Phe Arg Asn Leu Gly Ala Leu	235
245	250
	255
Leu Pro Arg Leu His Gln Leu Cys Cys Arg Met Pro Arg Thr Leu Arg	

260 265 270
 Arg Leu Phe Val Ala Glu Leu Cys Ser Trp Met Ala Leu Met Thr Phe
 275 280 285
 Thr Leu Phe Tyr Thr Asp Phe Val Gly Glu Gly Leu Tyr Gln Gly Val
 290 295 300
 Pro Arg Ala Glu Pro Gly Thr Glu Ala Arg Arg His Tyr Asp Glu Gly
 305 310 315 320
 Val Arg Met Gly Ser Leu Gly Leu Phe Leu Gln Cys Ala Ile Ser Leu
 325 330 335
 Val Phe Ser Leu Val Met Asp Arg Leu Val Gln Arg Phe Gly Thr Arg
 340 345 350
 Ala Val Tyr Leu Ala Ser Val Ala Ala Phe Pro Val Ala Ala Gly Ala
 355 360 365
 Thr Cys Leu Ser His Ser Val Ala Val Val Thr Ala Ser Ala Ala Leu
 370 375 380
 Thr Gly Phe Thr Phe Ser Ala Leu Gln Ile Leu Pro Tyr Thr Leu Ala
 385 390 395 400
 Ser Leu Tyr His Arg Glu Lys Gln Val Phe Leu Pro Lys Tyr Arg Gly
 405 410 415
 Asp Thr Gly Gly Ala Ser Ser Glu Asp Ser Leu Met Thr Ser Phe Leu
 420 425 430
 Pro Gly Pro Lys Pro Gly Ala Pro Phe Pro Asn Gly His Val Gly Ala
 435 440 445
 Gly Gly Ser Gly Leu Leu Pro Pro Pro Pro Ala Leu Cys Gly Ala Ser
 450 455 460
 Ala Cys Asp Val Ser Val Arg Val Val Val Gly Glu Pro Thr Glu Ala
 465 470 475 480
 Arg Val Val Pro Gly Arg Gly Ile Cys Leu Asp Leu Ala Ile Leu Asp
 485 490 495
 Ser Ala Phe Leu Leu Ser Gln Val Ala Pro Ser Leu Phe Met Gly Ser
 500 505 510
 Ile Val Gln Leu Ser Gln Ser Val Thr Ala Tyr Met Val Ser Ala Ala
 515 520 525
 Gly Leu Gly Leu Val Ala Ile Tyr Phe Ala Thr Gln Val Val Phe Asp
 530 535 540
 Lys Ser Asp Leu Ala Lys Tyr Ser Ala
 545 550

<210> 114
 <211> 241
 <212> PRT
 <213> Homo sapien

<400> 114
 Met Gln Cys Phe Ser Phe Ile Lys Thr Met Met Ile Leu Phe Asn Leu
 1 5 10 15
 Leu Ile Phe Leu Cys Gly Ala Ala Leu Leu Ala Val Gly Ile Trp Val
 20 25 30
 Ser Ile Asp Gly Ala Ser Phe Leu Lys Ile Phe Gly Pro Leu Ser Ser
 35 40 45
 Ser Ala Met Gln Phe Val Asn Val Gly Tyr Phe Leu Ile Ala Ala Gly
 50 55 60
 Val Val Val Phe Ala Leu Gly Phe Leu Gly Cys Tyr Gly Ala Lys Thr
 65 70 75 80
 Glu Ser Lys Lys Ala Leu Val Thr Phe Phe Phe Ile Leu Leu Leu Ile

				85						90				95	
Phe	Ile	Ala	Glu	Val	Ala	Ala	Ala	Val	Val	Ala	Leu	Val	Tyr	Thr	Thr
			100						105				110		
Met	Ala	Glu	His	Phe	Leu	Thr	Leu	Leu	Val	Val	Pro	Ala	Ile	Lys	Lys
		115					120				125				
Asp	Tyr	Gly	Ser	Gln	Glu	Asp	Phe	Thr	Gln	Val	Trp	Asn	Thr	Thr	Met
	130					135				140					
Lys	Gly	Leu	Lys	Cys	Cys	Gly	Phe	Thr	Asn	Tyr	Thr	Asp	Phe	Glu	Asp
145				150						155				160	
Ser	Pro	Tyr	Phe	Lys	Glu	Asn	Ser	Ala	Phe	Pro	Pro	Phe	Cys	Cys	Asn
			165						170					175	
Asp	Asn	Val	Thr	Asn	Thr	Ala	Asn	Glu	Thr	Cys	Thr	Lys	Gln	Lys	Ala
		180						185					190		
His	Asp	Gln	Lys	Val	Glu	Gly	Cys	Phe	Asn	Gln	Leu	Leu	Tyr	Asp	Ile
	195						200					205			
Arg	Thr	Asn	Ala	Val	Thr	Val	Gly	Gly	Val	Ala	Ala	Gly	Ile	Gly	Gly
	210					215				220					
Leu	Glu	Leu	Ala	Ala	Met	Ile	Val	Ser	Met	Tyr	Leu	Tyr	Cys	Asn	Leu
225				230					235					240	
Gln															

<210> 115
 <211> 366
 <212> DNA
 <213> Homo sapien

<400> 115
 gctctttctc tccctcctc tgaatttaac tctttcaact tgcattttgc aaggattaca 60
 cattccactg tcatgtatat tgtgttgcaa aaaaaaanaa gtgtctttgt tt.aaattac 120
 ttggtttgtg aatccatctt gctttttccc cattgggaact agtcattaac ccattctctga 180
 actggttaga aaacatctga agagctagtc taccagcacc tgacagggtga attggatagt 240
 tctcagaacc atttcaccca gacagcctgt ttctatcttg tttatctaat tagtttgggt 300
 tctctacatg cctaaccaac cctgctccaa tctgtccat aaggctctgt gacttgaagt 360
 ttagtc 366

<210> 116
 <211> 282
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (282)
 <223> n = A,T,C or G
 <400> 116
 acaagatga accatttctt atattatagc aazattaaaa tctaccogta ttctaatakt 60
 gggaaatgag atnnaacaca atnttatasa gtctacttag agaagatcaa gtyacutcaa 120
 agactttact attttcatat tttaagacac atgattttct ctattttagt aacctgggtc 180
 ataughtaaa caaaggataa tgtgaacagc agagaggatt tgttggcaga aaatctatgt 240
 tcaatctnga acLatctana tcaagacat tctatttctt tt 282

<210> 117
 <211> 305

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(305)

<223> n = A,T,C or G

<400> 117

acacatgtcg	cttcaactgcn	tctcttagatg	cttcttggtca	acatanagga	acagggacca	60
tatttatect	ccttcctgaa	acaattgcag	ataaamcaa	aatatatgaa	acaattgcag	120
ataaaggcaa	atatatatgaa	acaaacaggtc	tggagatatt	ggaaatcagt	caatgaagga	180
tactgatcnc	tgtcactgt	cctaattgcag	gctgtgggaa	acagatgagg	tcacctctgt	240
gactgcucca	gcttactgcn	tgtagagagt	tctatngctg	cagttcagac	aggagagaaat	300
tgggt						305

<210> 118

<211> 71

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(71)

<223> n = A,T,C or G

<400> 118

accaagggtgt	ntgaatctct	gacgtgggga	tctctgattc	cgcacaaatc	tgagtggaaa	60
aantcctggg	t					71

<210> 119

<211> 212

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(212)

<223> n = A,T,C or G

<400> 119

actccggttg	gtgtcagcag	acgtggcat	tgaacatngc	aatgtggagc	cnaaacacac	60
gaaaatgggg	tgaaattggc	caacttctca	tnaacttatg	ttygcaantt	tgcacacac	120
agtaagctgg	ccttctcaat	aaagaaaaat	tgaaggyttt	cttactaenc	gganttaant	180
aatggantca	aganactccn	agguctcagc	gt			212

<210> 120

<211> 90

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(90)

<223> n = A,T,C or G

<400> 120
 actcgtttgca natcagggggc cccccagagt caccgttgcg ggagtccttc tggctttgcc 60
 ctccgcgggc gcaggaacatg ctggggtggc 90

<210> 121
 <211> 218
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(218)
 <223> n = A,T,C or G

<400> 121
 tgtancgtga anacgacaga nagggttgc aaaaatggag aanccttgaa gtcattttga 60
 gaataagatt tgcctaaaga tctggggcta aaacatgggt attgggagac atttctgaag 120
 atatncagtc aaattangga atgaattcat ggtctctttg ggaattcctt taagatngcc 180
 agcatanact tcatgtgggg atancagta cctttgta 218

<210> 122
 <211> 171
 <212> DNA
 <213> Homo sapien

<400> 122
 taggggtgta tgcactgta aggcacaaan ttgagactca acttggttaa ccaataaagg 60
 catttgtag ctcatggaa cgggaagtcgg atgggtgggc atctttagla ctgcatgagt 120
 caccaccccg gctgggtcat ctgtgccaca ggtccctgtt gacagtgcgg t 171

<210> 123
 <211> 76
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(76)
 <223> n = A,T,C or G

<400> 123
 tctagcgtga agacnacaga atggtgtgtg ctgtgctatc caggaaacaa ttattatcc 60
 ttatcaanta ttgtgt 76

<210> 124
 <211> 131
 <212> DNA
 <213> Homo sapien

<400> 124
 acctttccc aaggccaatg tctgtgtgc taactggccg gctgcaggac agctgcaatt 60
 caatgtgtctg ggtcatatgg aggggaggag actctaaaat agccaatttt attctcttgg 120
 ttatgatttg t 131

<210> 125
 <211> 432
 <212> DNA
 <213> Homo sapien

<400> 125
 accttatctc ctggctatga aatgcatggt ggaaaattgc gttaccaact ataccactgg 60
 cttgaaaag aggtgatagc ttttcagagg atttgtgact ttgctcag tgctgaagaa 120
 ctacagtcctg ctttggcag aatgtagat gaatttggat taatgagga tgcagaagat 180
 ttgctcacc aacaaagt gaacaaactg agagaatt ttcaggagaa aagacagtgg 240
 ctcttgaggt atcagtcact tttagaagt tttcttagtt atgcatact tcatggatcc 300
 catggtgggg gtcttgcatc tgaagaatg gaattgatt tgcctttgca agaattcag 360
 caggaaacat cagaaccact atttctatgc cctctgtcag agcaaacctc agtgccttc 420
 ctctttgctt gt 432

<210> 126
 <211> 112
 <212> DNA
 <213> Homo sapien

<400> 126
 acataacttg aatagtaaaa tgaactga gctgaattt ctaattcact ttctaaccat 60
 agtaaggaatg ttatttccc ccagggatca ccaatatatt ataaattt gt 112

<210> 127
 <211> 54
 <212> DNA
 <213> Homo sapien

<400> 127
 accacgaac cacaacaaag atggagcat caatccact gccaaacaca gcag 54

<210> 128
 <211> 323
 <212> DNA
 <213> Homo sapien

<400> 128
 accatattag taattgtttt gttgtttcat tttttctaa tgtctccct ctaccagtc 60
 acctgagaca acagaatgaa aatggaagga cagccagatt tctcttttc tctctgctca 120
 ttctctctga agtctaggtt accattttg gggaccatt ataggcaata aacacagttc 180
 ccaaacgcatc tggacagttt ctgtgtgtt tttagaatgg tttcccttt tcttagcctt 240
 ttctgcaaa aggtctactc agtcccttgc ttgtcagtg gactgggctc ccagggcct 300
 aggtgcctt cttttcatg tcc 323

<210> 129
 <211> 192
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1} ... {192}
 <223> n = A, T, C or G

<400> 129
 acatagatgt ggttatattt ttaaatatca uttttgtatc actctgactt tttagcatac 60
 tgaaaacaca ctacacatct tnttgtgac catgatcaga tacaacccaa atcattcacc 120
 tagcacattc atctgtgata naagatagg tgaatttcac ttccttcaay ttggccaatg 180
 gtaaacaaaa gt 192

<210> 130

<211> 362

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)... (362)

<223> n = A,T,C or G

<400> 130
 ccttttttla tggatgagt agactgtatg ttggaanatt tancacacac ctctctgaca 60
 tataatgacg caacaaaaag gtgtgttta gtctatggt toagtttatg cccctgacaa 120
 gtttccattg tgttttgccg atcttctggc tantctgggt atcttccatg ctattagtaa 180
 ttctgtattc catcttgcta acgcttggt gatgtaacct gctangaggc taactttata 240
 cttattttaa agctcttatt ttgtggcat taaaatggca atttatgtgc agcactttat 300
 tgcagcggga agcactgtg ggttgaattgt aaagctcttt gctaatctta aaaagtaatg 362
 gg

<210> 131

<211> 332

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)... (332)

<223> n = A,T,C or G

<400> 131
 ctttttgaaa gatcgtgtcc actcctgtgg acatcttgyt ttaatggagt ttcccatgca 60
 gtangacttg tatggttgca gctgtccaga caaaaacatt tgaagagctc caaatgaga 120
 gttctccrag gttcgccttg ctgctccaag tctcagcagc agctctttt agyaggcatc 180
 ttctgaacta gattaaggca gcttgtaaat ctgatgtgat ttggtttatt atccaaactaa 240
 cttccatctg ttatcaactg agaaagccca gactccccan gacnggtacg gattgtgggc 300
 atanaaggat tgggtgaagc tggcgttgtg gt 332

<210> 132

<211> 322

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)... (322)

<223> n = A,T,C or G

<400> 132
 acttttgcaa ttttgtatat ataaacaatc ttgggacatt ctcttgaaaa ctgggtgtcc 60

```

agtggctaag agaactcgaat ttcaagcaat tctgaaaggaa aaaccagcat gacacagaat. 120
ctcaaatctc caaacagggg ctctgtggga aaactgaggg aggaaccttg tatctcgggt 180
tttagcaagt caaatgaan atgacaggaa aggcctatct atcaacaaag aggaaggttg 240
ggatgcttct aaaaaaact ttggtagaga aaataggaaat gctnaetctt aggggaagct 300
gtcaacaatct acaattgggt ca 322

```

<210> 133

<211> 278

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(278)

<223> n = A,T,C or G

<400> 133

```

acaagccttc acaagtttaa ctcaattggg attaatcttt ctgtanttat ctgcataatt 60
cttgtttttt tttccatctg gctcctgggt tgacaatttg tggaaacaa cctattgcta 120
ctatttaaaa aaatcacaa atcttccct ttgaagctatg cttaattcaa actattcctg 180
ctattcctgt ttgtcaaaag aatttatatt ttcaaaata tctntatttg ctctgatggg 240
cccacgaac actaataaa accacagaga ccagcctg 278

```

<210> 134

<211> 121

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(121)

<223> n = A,T,C or G

<400> 134

```

gtttanaaaa ctgtcttagc tccatagagg aaagaatggt aaactctgta ttttaaaaac 60
tgatctcttg aggttaaaact tggcttctaa atgttatctt tacttgatc ttgcctcttg 120
t 121

```

<210> 135

<211> 350

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(350)

<223> n = A,T,C or G

<400> 135

```

acttanaaac atgactagca catcagaato cttcaaagaa catcagata atnclatacc 60
atancaagtg gtgactggtt aagcgtgcga caaagggtcag ctggcagatt acttggtgtn 120
aaacttgata ctttgttct aagtaggaac tagtatcacg tncctaggan tggtaactca 180
gggtgccccn caactcctgc agccgtcct ctgtgocagn cctgnaagg aactttcgct 240
ccacctcaat caagccctgg ggcctgctac ctgcaactggt ctgaacaaac gttagctgag 300
ttcccaagga tgcgaagctt ggtgctcaan tccctggggcg tcaactcagt 350

```

<210> 136
 <211> 399
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (399)
 <223> n = A,T,C or G

<400> 136
 tgtaccgtga agacacaga agttgcctgg cagggacagg gacgggcccga ggccagggtt 60
 gctgtgattg tatccgata ntctctgtga gaaaagata tgagatgacg tgagcagcct 120
 gcagacttct gtctgccttc aanaagccag acagggaaggc cctgcctgcc ttggctctga 180
 cctggcggcc agccagccag ccacagggtg gcttcttctt tttgtggcga caacnccag 240
 aaaaatgcag agggccaggg ttaggctatna gtgggtangl gacataaaa caccagggtg 300
 tcccaggac ccgggcaagg gccatccca cctccagcca gcctgccac tggegtgatg 360
 ggtgcagang gatgaagcag ccagntgctc tctctgtgt 399

<210> 137
 <211> 165
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (165)
 <223> n = A,T,C or G

<400> 137
 actggtgtgg tngggggtga tctgtgtgtt anaagttgan gtgacttcac gatggtgtat 60
 gggggaggtg tgtgaacga gggatgtaga ngttttggcc gtgctaaatg agcttoggga 120
 ttggctgggt ccactggttg tcaatgtcat tggtygggtt cctgt. 165

<210> 138
 <211> 338
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (338)
 <223> n = A,T,C or G

<400> 138
 actcaactga atgacacatt cacaacagaa tccagaggtct gtagaaacat taatggctcc 60
 ttaacttctc cagtaagaat cagggacttg aatgggaac gttaacagcc acatgcccaa 120
 tgctgggcag tctccatgc ctccacagt gaaagggtt gaggaaatc acatccaatg 180
 tcatgtgttt ccagccacac caaaaggtgc ttggggtgga gggctggggy catananggt 240
 caggctcag gaaacctcaa gttccattca gctttgccac tgtacattcc ccatntttaa 300
 aaaaactgat gccctttctt ttttttttg taatatc 338

<210> 139
 <211> 382

<212> DNA

<213> Homo sapien

<400> 139

gggaatctctg	gttttttggc	tctgggttgc	ctctagccga	ggcactcttg	acagaacaaa	60
gaaagggart	tcgagtaaga	agglqattta	cagccagccl	agtgcocgaa	gtgaaaggaga	120
attcacaacag	acctcgctat	tcttggtgfg	agcctgggtcg	gctcacccgc	tatcatctgc	180
atttgccctta	ctcaggtgct	accggactct	ggccctcgat	gtctgtagtt	tacacgggatg	240
ccttatcttc	ctctacacac	ccacagggcc	ccctacttct	tgggatgctt	ttttaataat	300
gtcagctatg	tgcctcctac	tccttcctgc	cctccctccc	tttccctacca	ctgctgagtg	360
gacctggaact	tgtttaaagt	gt				382

<210> 140

<211> 200

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (200)

<223> n = A,T,C or G

<400> 140

accaaancctt	ctttctgttg	tgttngatct	tactataggg	gtcttngcttn	ttctaaanat	60
acttttcatt	taacancttt	tgttaagtgt	caggctgcac	tttgcctccat	anaattattg	120
ttttcacact	tcaacttgta	tgtgttttgt	tcctanagca	ttgggtgaat	cacatatttt	180
atattcagca	taaaggagaa					200

<210> 141

<211> 335

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (335)

<223> n = A,T,C or G

<400> 141

actttatttt	cacaacactc	atattgttgc	aaacaacact	agaaaaataa	agtttgggtgg	60
gggtgctgac	ttaacttcaa	gtcacagact	tttatgtgac	agattggagc	agggcttggct	120
atgcatgtag	agaaccccaa	ctaatttatt	aaacaggata	gaaacaggct	gtctgggtga	180
aatgggtctg	agaaccatcc	aattcacctg	tcagatgctg	atanactagc	ctttcagatg	240
ttttctacc	agttcagaga	taggttaatt	actanttcca	atgggggaaa	agcaagatgg	300
attcaccaac	caagtaattt	caaaccaaga	cactt			335

<210> 142

<211> 459

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (459)

<223> n = A,T,C or G

<400> 142

accaggthaa	lattgcccna	tatatccttc	ccaaltgggg	gctaaacaga	cggtgtatttc	60
gggttgtttt	aagacaacnc	agcttaatat	caagagaaat	tgtgaccttc	catggagtat	120
ctgatggaga	aaacactgag	ttttgacaaa	tcttatttta	ttcagatagc	agtctgatca	180
caatgtgtcc	aacaacactc	aaataatana	tcaatataat	tcaagtgtta	aagattgggc	240
ttcaaacatc	atagccaatg	atgcccctgt	tgcctataat	ctctccgaca	tcaaacacac	300
tcaaaccttc	agtggccncc	aaacuatcca	gcacagcttc	cttaactgtg	agctgtttga	360
agctaccnag	ctgagcaata	ttgactatnt	ttttccnget	ctgaatagct	ctagggatcl	420
caagcanggg	gggaggaacc	agctcaacct	tgccgtant			459

<210> 143

<211> 140

<212> DNA

<213> Homo sapien

<400> 143

acatttcctt	ccaccaagtc	aggactctctg	gcttctgtgg	gggttccttat	cacctgaggg	60
aatccaaac	agtctctctt	agaaagggaat	agtgtcauca	acccacacca	tctccctgag	120
accatccgac	tccctgtgt					140

<210> 144

<211> 164

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (164)

<223> n = A,T,C or G

<400> 144

acttcagtaa	caacatacaa	taacaacatt	aaagtgtatat	tgcctatcttt	gtcattttct	60
atctatacca	ctctcccttc	tgaaacaaan	aatcantanc	caatcactta	tacaaatttg	120
aggcaatttc	tccatatttg	tttcaatcc	ggaaanaang	atgt		164

<210> 145

<211> 303

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (303)

<223> n = A,T,C or G

<400> 145

acgtagacaa	cccaactttg	tatttqtaet	ggcaaacatc	cagnagaaat	tcttaaacaa	60
actggagggg	attttatccc	aattatccca	ttcatttaaa	tgcctctctc	ctcaggctat	120
gcaggacagc	tatcataagc	gggcccaggc	atccagatcc	tuccatttgt	ataaaattca	180
gtagggggag	ccatccaaag	gacaggctca	atcaaggagg	gaaatggaac	ataagcccag	240
tagtaaaatn	ttgctttagct	gaacacagca	caaaagactt	acgcctgtgg	tgattaccat	300
cba						303

<210> 146

<211> 327

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (327)

<223> n = A,T,C or G

<400> 146

actgcagrtc aattagaagt ggtctctgac ttctatcanc ttctccctgg gctccatgac	60
actggccctgg agtgactcat tgcctctggt ggttgagaga gtccttttgc caacaggccct	120
ccaagtcagg gctgggaattt gtttcttttc caattcttag caacatattg ctggccactt	180
cctgaaccagg gagggctggga ggagccagca tggaaacaagc tgcacttttc taaagttagc	240
agacttgccc ctgggacctgt cacacctact gatgaacttc tgtgacctga ggaagggaatg	300
tgggggtgag ctgtgtgact ctatggt	327

<210> 147

<211> 173

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (173)

<223> n = A,T,C or G

<400> 147

acattgtttt tttyagatca agcattgana gagctctcct taaagtgaac caatgggaagg	60
actgggaacc ataccacat ctctgttctg agggataatt ttctgataaa gtcttgctgt	120
atattcaagc acatattgta tatattatct agttccatgt ttatagccta gtt	173

<210> 148

<211> 477

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (477)

<223> n = A,T,C or G

<400> 148

acaaacttct tatctcatcg aatttttaac ccaaaactcac tcaactgtgac ttcttatcct	60
atgggatata ttatttgatg ctccatttca tcaracatat atgaataata cactcactact	120
gccctactac ctgctgcact aatcacattc ctttctgtc ctgacctga agcatttggg	180
gtggtcttag tggccatcag tccanycctg cactttgagc ctttgagctc ctttgcctac	240
ncanccac ctcaaccgac ccatctctt acacagctac ctcttgcctc tctaaaccca	300
tagattatnt ccaatttcag tcaattaagt tcttcttaac actctacccg acatgtccag	360
caccactggt aagctttctc cagccaacac acacacacac acanccacac acacacatat	420
ccaggcacag gctacctcat ctccacaatc acccttttaa ttacctgtct atggtgg	477

<210> 149

<211> 207

<212> DNA

<213> Homo sapien

<400> 149

```
acagttgtat tataatctca agaaataaag ttgcantgag agcatttcaag agggagagac 60
taacgtatctt tagagagcca aggaaggttt ctgtggggag tgggatgtaa ggtggggcct 120
gatgataaat aagagtcagc caggttaagt ggtggtgttg tatgggcaca gtgaagaca 180
tttcayggag agggaacagc agtgaan 207
```

<210> 150

<211> 111

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1} ... {111}

<223> n = A,T,C or G

<400> 150

```
accttgattt cattgctgct ctgatggaaa ccccaactat taatttagct aaacatggg 60
cacttaasly tggtcagtgt ttggacttct taactantgg catuttctgg t 111
```

<210> 151

<211> 196

<212> DNA

<213> Homo sapien

<400> 151

```
agcgcggcag gtcctattga acattccaga taactatcat tactcgatgc tgttgataac 60
agcaagatgg ctctgaactc agggtcacca ccagctattg gcccttacta tgaaaccat 120
ggctaccgac cggaaaacc ctatcccgca cagcccacty tggcccccac tttctacgag 180
gtgcatccgg ctacgt 196
```

<210> 152

<211> 132

<212> DNA

<213> Homo sapien

<400> 152

```
acagcacttl cacatgtaag aaggagagaa ttccataatg taggagaaag ataacagAAC 60
cttccctttt tcatctagt gtcgaaacct gatgctttat gttgacagga atagaaccag 120
gaggagattt gt 132
```

<210> 153

<211> 285

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1} ... {285}

<223> n = A,T,C or G

<400> 153

```
acaaaccca nganaggcca ctggccgtgg tgtcatggcc tccaaacatg aaggtgtcag 60
```

cttctgctct catgtctca tctgcaact cttaccatt. ttatctctcg ctcaagcayga	120
gcacatcaat aaagtccaaa gtcttggaat tggccttggc ttggaggagc tcatcaaac	180
cttggtagt gaggttggg cgcgcctct ggatgacggc atctgtgag tctgcaaca	240
gtctgcaggc cctgtggagc gcgcgtccac agggagtnag gaatt.	285

<210> 154

<211> 333

<212> DNA

<213> Homo sapien

<400> 154

accacagtcc tgbtgggcca gggcttcattg accctttctg tgaaaagcca tattatcacc	60
accccaaat tttctttaa catctttaac tgaaggggtc agctcttga ctgcacagac	120
cctaagcgg ttacacagt aactccact ggccctgatt tgtgaaattg ctgctgctg	180
attggcaca gagtcgaagg tgttcagctc cctctctcg tggacagaga ctctgatttg	240
agtttcacaa attctggggc cactctgtca tggctctct gaaataaaat ccggagaatg	300
gtcagggctg tctatccat atggatcttc cgg	333

<210> 155

<211> 308

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> 11} ... (308)

<223> n = A,T,C or G

<400> 155

actggaaata ataaaaccca catcacagtg tctgttcaa gatcatcagg gcatggatgg	60
gaaggtgctt tgggaactgt aaagtgccta acacatgat gatgatttt gtataatat	120
ttgaatcagg gtgcatacna actctctgc ctgtctctcc tgggccccg cccagcccc	180
atcacagctc actgctctgt tcatcaggc ccagcatgta gtggctgatt ctctctggct	240
gtttctagcc tccanaagtt tctctgaagc caaaccaccc tctangtata aggcattgctg	300
ggcctggg	308

<210> 156

<211> 295

<212> DNA

<213> Homo sapien

<400> 156

acctgtctcg gtgcttggaa catattagga actcaaaata cgagatgata acagtgccta	60
ctattgatta ctgagagAAC tgttagacat ttagttaga attttctaca caggaaactga	120
gaataggaga ctatgtttcg cctcctatc ctctctatc ctcttgcct cattctatgt	180
ctaatatatt ctcaatcaaa taagggttagc ataactcagga aatcgaccaa ataccaatat	240
aaaccagat gtctatctct aagattttca aatagaaaac aaattaaay actat	295

<210> 157

<211> 126

<212> DNA

<213> Homo sapien

<400> 157

acaaagtttaa atagtgtgt. cactgtgcat gtgctgaat gtgaaatcaa ccaatcttct	60
---	----

gaagagcaaa acaaattctg tcatgtatc tctatcttgg gtcatggga tatctgtccc 120
cttagt. 126

<210> 158
<211> 442
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> {1}... (442)
<223> n = A,T,C or G

<400> 158
accactgggt cttggaaaca cccatcctta atacgatgat tttctgtctg tctgaaactg 60
aanccagcag gctgcuccca gtcagtcctt ccttcagag aaaaagagat ttgagaaagt 120
gctgggtta ttcaccatta attcctccu ccacactctc tgagtcttcc cttactattt 180
ctggtgggttc tgaccaaagc aggtcatggg ttgttgagca tttgggatcc cagtgaagta 240
natgtttgta gccttgata cttagccctt ccacgcaca aacggagtg cagagtggtg 300
ccacccctgt tttccagtc caagtagaca gattcacagt ggggaattct ggaagctgga 360
nacagagggg ctctttgcag agccgggact ctgagangga catgagggcc tctgctctg 420
tgttcattct ctgatgtcct gt 442

<210> 159
<211> 498
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> {1}... (498)
<223> n = A,T,C or G

<400> 159
acttcagggt aacggtgttg tttccggttg gcctgaactg atgggtgacg ttgtaggttc 60
tccaaacaag actgaggttg cagagcgggt agggaaagagt gctgttccag ttgcacctgg 120
gctgctgtgg actgtgttg attcctcact acggcccaag ttctgtggaac tggcannaag 180
gtgtgtgtat gganttgagc tcggggcggt gtggtaggtt gtgggctctt caacaggggc 240
tgctgtgttg ccgggagtg aaggtgtgtt gtcacttgag cttggccagc tctggaaagt 300
antantttct tctgaagga cagcgttgtt ggaagctggca ngggtcanty ttgtgtgtaa 360
cgaaccagtg ctgctgtggg tgggtgtana tctcccaan agcctgaagt tatggtgtcn 420
tcaggtanaa atgctgttct agtgtccttg ggcnctgtg gaagggttga nattgtcacc 480
aagggaataa gctgtggg 498

<210> 160
<211> 380
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> {1}... (380)
<223> n = A,T,C or G

<400> 160

```

accctgcaccc agcttccctg ccaaacctaac aaggagacat caacctctag acagggaacc      60
agcttcaggga tacttccagg agacagagcc accagcagca aaacaaatat tcccatgcct      120
ggagcactggc atagagggaag ctganaaatg tgggtctga ggaagccatt cgagtcctggc      180
cactagacat ctcatnagcc acttctgtga agagatgcc cctgaccera gatgcctctc      240
caaccttcc: ctccatctca cacacttgag utttccartc tgtataattc taacatccctg      300
gagaaaatg gtagtttgac cgaacctgtt cacaacggtc gaggctgatt tctaacgaaa      360
cttgtagaal gaagcctgga                                     380

```

<210> 161

<211> 116

<212> DNA

<213> Homo sapien

<400> 161

```

actccacatc cctctgagc aggcggctgt cgttcaaggc gtatttgccc ttgccctca      60
cactgtccac tggcccttca tcccttggc gcttaattccc tcgaaagagc atgt      114

```

<210> 162

<211> 177

<212> DNA

<213> Homo sapien

<400> 162

```

accttctgaa tcgaatcaaa tgatacttag ttagtcttca atatccctcat atatctcaaa      60
gtttactac tctgataatt ttgtaaacca ggtaaccaga acatccagtc atacagcttt      120
tggtagata taacttggca ataaccagc ctggtgatac ataaaactac ttaactgt      177

```

<210> 163

<211> 137

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}...{137}

<223> n = A,T,C or G

<400> 163

```

catctatada gacaggcgtg aagacattca cgacaaaac gcgaaattct atcccgtgac      60
canagaaggc agctacggt actcctacat cctggcgtgg gtggccttcg cctgcacctt      120
catcagcggc atgatgt                                     137

```

<210> 164

<211> 469

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}...{469}

<223> n = A,T,C or G

<400> 164

```

cttatcacia tgaatgttct cctgggcagc gctgtgatct ttgccacctt cgtgaacttca      60
tgcactgcat catgtatctt catacctaat gaggaggttc caggagattc aacaggaaa      120

```

tgcatggntc	tcnagggaan	caaacacccc	ataaactcgg	agtggcagac	tgacaactgl	180
gagacatgca	cttgctacga	aaagaaatt	tcatgttgc	cccttgtttc	tacacctgtg	240
gggttatgaa	aggacaaactg	ccaaagaatc	l.tcaaggagg	aggacagaa	gtatatcgtg	300
gtggagaaga	aggaccnasa	aaagacccgt	tctgtcagtg	aatggataat	ctaattgtct	360
tctcgtcggc	aaagggtctc	caggccaggc	ctcattctcc	tctggcctct	aatagtcatt	420
gattgtgtag	ccatgcttat	cagtaaaag	atntttgagc	aaacacttt		469

<210> 165

<211> 195

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}...{195}

<223> n = A,T,C or G

<400> 165

acagtttttt	atanatatcy	acattgcagg	cacttctgtt	cagtttcata	aaagctgggtg	60
atccgtgttc	atccactatt	acttcggtag	agtaaaaatt	attcttatag	cccatgtccc	120
tgcaggccgc	cgcgcggtag	ttctcgttcc	agtcgtcttg	gcacacaggg	tgcagggaat	180
tctcttgaga	tgagt					195

<210> 166

<211> 383

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}...{383}

<223> n = A,T,C or G

<400> 166

acacctttgt	agtgtggcac	atcagggggc	catacgggtc	acagtcactc	atagccctgc	60
cgaggtcggg	gtccacacca	ccggtgtagg	tgtgclcaat	cttgggcttg	gcgccacact	120
ttggagaggg	gatatgctgc	acacacatgt	ccacaaagcc	tgtgaactcg	ccaaagaatt	180
tttgragacc	agcctgaagc	aggggaggat	gttcagcttc	agtccttct	tcttcagggtg	240
gatgccaaac	tctcttangg	tccgtgggaa	gctgggtgtc	acntcactta	caacctgggc	300
gangatctta	taaagaggct	ccnagataaa	ctccacgaaa	cttctctggg	agctgctagt	360
nggggccttt	ttggtgaact	ttc				383

<210> 167

<211> 247

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}...{247}

<223> n = A,T,C or G

<400> 167

acagagccag	accttgggaa	tcaatgaanc	agagattcaag	actaaacccc	aahtoganat	60
tggagcagaa	autggagcaa	gaagtgggaa	tggggctgaa	glagagacca	aggcactgu	120

tatannccatc caccagagucca accttcaggc caaggcctatg gttggggcag anccagagac	180
tcactctgan tccaaagtgg tggctygaa cctggctatg acanaggcag tgactctgac	240
tgangtc	247

<210> 168

<211> 273

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(273)

<223> n = A,T,C or G

<400> 168

accttctaagt ttcttagaag tggcaagatt gtantcatcc tgaauatggg tttaacttcaa	60
aatccctcan ccttggttctt cactactgtc tatactgana gtgtcatgtt tccacaaagg	120
gctgaacnct gagcctgnat tttaactcat ccttgagaag ccttttccag tagggtyggc	180
aattcccaac ttaacttgcca caagcttccc aggcctcttc ccttggaagg utccagcttg	240
agtcccagat aaactcatgg gctgccttgg gca	273

<210> 169

<211> 431

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(431)

<223> n = A,T,C or G

<400> 169

acagccttgg ctteuccaaa ctccacagtc tcagtgacga aagatcatct tccagcagtc	60
agctcagacc agggctcaag gatgtgacat caacagtttc tgytttcaga araggttcta	120
ctactgtcaa ctgacccccc ctacttcttc aaaggctgtg gtaagtlttg cacaggfag	180
ggcagcagaa aggggggtant tactyatgga caccatcttc tctgtatart cccactgac	240
cttgccatgg gcaaaaggccc ctaccacaaa aaCaatagga tcaatgctgg gcaccagctc	300
acgucacatca ctgacaaccg ggatygaaaa agaantgcca actttcatar atccaaactgg	360
aaagtgatct gatactggat tcttaattac ctccaagaag tctggggggc catcagctgc	420
tgyaacactg a	431

<210> 170

<211> 266

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(266)

<223> n = A,T,C or G

<400> 170

aactgtgggc tgggctgtta tgactgtgcu gytgtctgaa agggagttta gagggtggagc	60
tcaaggagct ctgcaggcat ttgccaanc ctctccanag canaggagc aacctauact	120
ccccgctaga aaagacaccag attggagtc tgggaggggg agtgggggtg ggcatttgat	180

gtatacttgt caactgaatg aaggagccng agaggaanga gacgaaatg aaat.tygcct 210
tcaaagctag gggctctgca gytgga 266

<210> 171

<211> 1248

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}...{1248}

<223> D = A,T,C or G

<400> 171

```

ggcagccaaa tcataaacgg cgaggactgc agcccgract cguagccctg gcaggcgcca      60
ctggtcattg aaaacgaatt gttctgctcg ggcgtccctg tgcattccga gtgggtgctg      120
tcagccgcac actgtttcca gaagtgaaty cagagctcct acaccatcgg gctgggcttg      180
cacagtcttg aggcagacca agagccaggg agccagatgg tggaggcccg cctctccgta      240
cggcagcccaq agtaccacag accttgctc gctaacgacc tcatgtctat caagttggac      300
gaatccgtgt ccgaghtctg caccatccgg agcatccgca ttgcttcgca gtgccttacc      360
gcgggggaact ctgacctcgt ttctggctgg ggtctgctgg rgaacggcag aatgcctacc      420
gtgttgcagt gcgtgaacgt gtccgtgggtg tctgaggagp tctgcagtaa gctctatgac      480
ccgtgttacc accccagcat gttctgcgac ggcggaggggc aagaccagaa ggactcctgc      540
aacgntgact ctgggggggc cctgatctgc aacgggtact tgcagggcct tgtgtctttc      600
ggaaaagccc cgtgtgacaa agttgggtg cccaggtctct acaccaact ctgcaaatcc      660
actgagltgga tagugaaaac cgtccagacg agttaactct ggggactggg aaccctatga      720
attgaccccc aatatcatcc tgcgggaagg attcagggaat atctgttccc agccctcctc      780
ccctcaggcc caggagtcca ggcrrccagc cctcctccc tccaaaccaag ggtacagatc      840
ccagccccc cttccctcag accuaggagt ccagaccccc cagccctcc tccctcagac      900
ccaggagtc agccctcct cctcagacc caggagtcca gaccccccag cccctcctcc      960
ctcagaccca ggggtccagg cccccaacc cctctccctc agactragag gtccaggccc      1020
ccaaaccttc attccctaga cccagaggtc caggtcccag cccctcctcc cttagacca      1080
gcggtccat gccacctaga ctntccctgt acacagtgcc ccttgtggc aggttgcccc      1140
aaccttacca gttggttttt catttttngt ccccttcccc tagatccaga aataaagttt      1200
aaggagagng caaaaaaaaaa aaaaaaanaa aaaaaaaaaa aaaaaaaa      1248

```

<210> 172

<211> 159

<212> PRT

<213> Homo sapien

<220>

<221> VARIANT

<222> {1}...{159}

<223> Xaa - Any Amino Acid

<400> 172

```

Met Val Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro
 1             5             10             15
Leu Leu Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser
                20                25                30
Glu Ser Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr
                35                40                45
Ala Gly Asn Ser Cys Leu val Ser Gly Trp Gly Leu Leu Ala Asn Gly
 50                    55                    60

```

Arg	Met	Pro	Thr	Val	Leu	Gln	Cys	Val	Asn	Val	Ser	Val	Val	Ser	Glu
65					70					75					80
Glu	Val	Cys	Ser	Lys	Leu	Tyr	Asp	Pro	Leu	Tyr	His	Pro	Ser	Met	Phe
				85				90						95	
Cys	Ala	Gly	Gly	Gly	Gln	Xaa	Gln	Xaa	Asp	Ser	Cys	Asn	Gly	Asp	Ser
				100				105					110		
Gly	Gly	Pro	Leu	Ile	Cys	Asn	Gly	Tyr	Leu	Gln	Gly	Leu	Val	Ser	Phe
		115					120					125			
Gly	Lys	Ala	Pro	Cys	Gly	Gln	Val	Gly	Val	Pro	Gly	Val	Tyr	Thr	Asn
	130					135					140				
Leu	Cys	Lys	Phe	Thr	Glu	Trp	Ile	Glu	Lys	Thr	Val	Gln	Ala	Ser	
145					150						155				

<210> 173

<211> 1265

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...[1265]

<223> n = A,T,C or G

<400> 173

ggcagccccc	actgcagcc	ctggcagggc	gcactgggtc	tggaaaacga	attgttctgc	60
tggggcgtcc	tgggtcatcc	gcactgggtg	ctgtcagccc	cacactgttt	ccagaaactcc	120
tacaccatcg	ggctggggcc	gcacagtctt	ggggccgacc	aagagccagg	gagccagatg	180
gtggagggcc	gcctctccgt	acggcaccga	gagtacaaac	gacvettgct	cgctaaagac	240
ctcatgtctc	tcaagtttga	cgaatccgtg	tccggagtct	acaccatcng	gagcatcagc	300
attgcttctg	agtgccttac	cgggggaaac	tcttgccctg	cttctgggtg	gggtcagctg	360
gggaacgggt	agctcacagg	tgtgtgtctg	ccctcttcaa	ggaggtccctc	tgcacagtcg	420
cgggggctga	cccagagctc	tgcgtccag	gcagaatgcc	taccgtgctg	cagtgcgtga	480
acgtgtcggg	gggtgtctga	gaggtctgca	gttaagctctc	tgacccgctg	taccacccca	540
gcctgttctg	cggcggcgga	gggcagagcc	agaaggactc	ctgcacaggt	gactctgggg	600
ggccctgat	ccgcaacggg	tacttgagg	gacttgtgtc	tttcggaaaa	gcccgtgtgt	660
gccaagtctg	cgtgccaggt	gtctacacca	acctctgcaa	attcactgag	tggatagaga	720
aaacgttcca	ggccagttca	ctctggggac	tgggaaccca	tgaattgac	ccccaaatcc	780
atcctgcggg	aggaattcag	gaatatctgt	tcccagcccc	tactccctca	ggccaggagg	840
tccaggcccc	cagccctccc	tccctcaaac	caagggtaca	gacccccagc	ccctccctcc	900
tacagaccag	gagtcacagc	ccccagcccc	ctctctctct	agacccagga	gtccagcccc	960
tctctctcca	gacccaggag	tccagacccc	ccagcccttc	ctcctcaga	ccagggggtt	1020
gagggccccc	acccctctct	cttccagagtc	agaggtccaa	gcccccaacc	cttcgttccc	1080
cagacccaga	ggttnaggtc	ccagcccttc	ttccttcaga	cccagnggtc	caatgcccac	1140
ttagattttcc	ctgnacacag	tgcctccctg	tggngagtgc	acccaacctt	accagttggt	1200
ttttcatttt	tngtcccttt	cccttagatc	cagaaataaa	gtttcagaga	ngngcaaaaa	1260
aaaaa						1265

<210> 174

<211> 1459

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...[1459]

<223> n = A,T,C or G

<400> 174

ggtagagccgc	acactgtttc	cagaagtgag	tgcagagctc	ctacaccatc	gggctgggc	60
tgcacagtct	tgagggccgc	cangagccag	ggagccagat	ggtaggagcc	agcctctccg	120
tacggaccc	agagtacaac	agcccttgc	tgcctaacga	ccctcatgctc	atcaagtttg	180
acgaatccgc	gtccagatct	gacaccatcc	ggagcatcag	cattgcttcg	cagtgcctta	240
cgcggggaa	cttttgctc	gtttctggct	ggggtctgct	ggcgaacggg	gagctccagg	300
gtgtgtgtct	gcccctcttc	aggaggtcct	ctgcccagtc	gcgggggctg	acccagagct	360
ctgggtccca	ggcagaatgc	ctaccgtgct	gcagtgcgtg	aaatgtgtgg	tggtgtctga	420
ngaggtctgc	antaaatct	atgacccgct	gtaccacccc	ancatgttct	gcgcgggcgg	480
agggcagagc	cagaaggact	ccctgcaacgt	gagagagggg	aaaggggggg	gcagccgact	540
cagggaaggg	tggaagaggg	ggagacagag	acacacaggg	ccgcacggcg	agatgcagag	600
atggagagac	acacaggggg	acagtgcaca	ctagagagag	aaatgtgagag	aaacagagaa	660
ataaacacag	gaataaagag	zagcaaggga	ggagagaaac	agaaacagac	atggggaggc	720
agaaacacac	acacatagaa	atgcaagtga	ccctcccaac	gcattggggc	tgagggtggg	780
gacctccacc	caataagaaa	tcctcttata	acttttgact	ccccaaaaac	ctgactagaa	840
atagcttact	gttgacgggg	agccttacc	ataacataaa	taagtugattt	atgcatacgt	900
tttatgcatc	catgatctac	ctttgttggg	attttttggt	atttcttaagc	tacacagttc	960
gctctgtgac	tttttttaaa	tgttgcaact	ctcctaaaaa	ttttctgagt	tgtttcttga	1020
aaaaatccaa	gtataagtg	acttctgcat	tcaaacccag	gttgttcaag	ggtccactgt	1080
gtacccagag	ggaaacagtg	acacagatcc	atagaggtga	aacacgaaag	gaaacaggaa	1140
aatcaagac	tctacaaaga	ggctgggcag	ggtggctcat	gcctgtaate	ccagccacttt	1200
gggaggcgag	gcagggcagat	cacttgaggt	agggagttca	agacnagcct	ggccaaaatg	1260
gtgaatcct	gtctgtacta	aaaatavaaa	agttagctgg	atctggtggc	agggcctctg	1320
aatccagct	acttggggag	ctgaggcagg	agaattgctt	gaatatggga	ggcagaggtt	1380
gaagtgaatt	gagatcacac	cactatcttc	cagctggggc	aacagagtaa	gactctgtct	1440
caaaaaaaa	aaaaaaaaa					1459

<210> 175

<211> 1167

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(1167)

<223> n = A,T,C or G

<400> 175

gcgcagccct	ggcaggcggc	actggctcatg	gaaacagaa	tgtctctgctc	gggctgctg	60
gtgcattccg	agtggtggt	gtcagccgca	cactgtttcc	agactccta	caccatccgg	120
ctgggctctg	acagtcttga	ggccgaccac	ggccagggga	gcagagctgt	ggaggccagc	180
ctctccgtac	ggcaccagga	gtacacacaga	ctcttgcctg	ctaacgacct	catgctcacc	240
aaatttgagc	aatccgtgtc	ggagctctgac	acacatccga	gcatacagcat	tgtctccag	300
tgccttaccg	gggggaacac	ttgcctcgtc	tctggctggg	gtctgctggc	gaacggcaga	360
atgcctaccg	tgtctgacctg	cgtgaaacgtg	tccgtgggtg	ctgaggangt	ctgcagtaag	420
ctctatgac	cgtctgacra	ccccagcagc	ttctgcgcgc	gcggagggga	agaccagaa	480
gactcctgca	acgggtgactc	tggggggccc	ctgatctgca	acgggtactt	gcagggcctt	540
gtgtctttcg	gaaaagccac	gtgtggccaa	cttggcgtgc	caggtgtcta	cacraacctc	600
tgcasattca	ctgagtggt	agagaaaacc	gtccagacaa	gttaactctg	gggactggga	660
acccatgaaa	ttgaccccc	aatcaatcct	gcggaangaa	ttcagggaata	cttgttccca	720
gccctctctc	cctcaggccc	aggagtccag	gccccccagc	cctctcccl	caaaccaagg	780
gtacagatcc	ccagccctct	ctccctcaga	cccaggagtc	cagacccccc	agccctctct	840
centcagacc	caggagtcca	gccctctctc	cttcagagcc	aggagtccag	accccccagc	900

```

ccntccntccg tcaaacccag ggggtgcaggc ccccaacccc cctccntca gagtcagagg      960
tccagcccc caaccctcg ttcccagac ccagaggtnc agghcccagc cctccctccc      1020
tcagacccag cgggccaatg ccacctagan tntacctgta cacagtgcgc ccttctggga      1080
ngttgaccca accttaccag ttgggttttc atttttgtc cctttccccc agatccagaa      1140
ataaagtnta agagagcgc aaaaaaa                                     1167

```

<210> 176
 <211> 205
 <212> PRT
 <213> Homo sapien

<220>
 <221> VARIANT
 <222> (1) ... (205)
 <223> Xaa - Any Amino Acid

```

<400> 176
Met Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp
 1      5      10      15
Val Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu
 20      25      30
Gly Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val
 35      40      45
Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Leu Leu Leu
 50      55      60
Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser
 65      70      75      80
Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly
 85      90      95
Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly Arg Met
100      105      110
Pro Thr Val Leu His Cys Val Asn Val Ser Val Val Ser Glu Xaa Val
115      120      125
Cys Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe Cys Ala
130      135      140
Gly Gly Gly Gln Asp Gln Lys Asp Ser Cys Asn Gly Asp Ser Gly Gly
145      150      155      160
Pro Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe Gly Lys
165      170      175
Ala Pro Cys Gly Gln Leu Gly Val Pro Gly Val Tyr Thr Asn Leu Cys
180      185      190
Lys Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Xaa Ser
195      200      205

```

<210> 177
 <211> 1119
 <212> DNA
 <213> Homo sapien

```

<400> 177
ggcactcgc agccctggca ggcggcactg gtcatggaaa acgaattgtt ctgctcgggc      60
gtcctgggtg atcgcagtg ggtactgtca gccgcacact gtttcagaa ctctacac      120
atcgggctgg gctgcacag ccttgaggcc gccccagagc caggagacca gatggtggag      180
gccagcctct ccgtacggca cccagagtac aacagacnct tgcctcgtaa cgacrtcatg      240
ctcatcaagt tgaacgaatc cgtgtccag tctgacacca tccggagcat cagcatttgc      300

```

```

tcgcagtgcc ctaccgaggg gaactcttgc ctccgtttctg gctgggggct gctgggcgaac 360
gacgctgtga ttgccatcca gtcccagact gtgggaggct gggagtgtga gaagctttcc 420
caaccctggc aggggttgac ctttccggca acctccagtg caaggagcgc ctgctgratc 480
ctcactgggt gctcactact gctcactgca tcacccggag cactgtgac aactagccag 540
caccatagtt ctccgagcgc agactatcat gatlaactgtg ctgactgtgc tgtctattgt 600
actaaccatg ccgatgttta ggtgaaatta gcgtcacttg gcctcaacca tcttgggtatc 660
cagttatcct cactgaattg agatttcttg ctccagtgtc agccattccc acataatttc 720
tgacctacag aggtgaggga tcataatagc ctccaaggat gctggtaactc cctccacaaa 780
ttcatttctc ctgttgtagt gaaagggtgc cctctggag cctccnaggy tgggtgtgca 840
ggtcacatg atgaatgtat gatcgtgttc ccattacccc aggcctttaa atccctcatg 900
ctcagtacac cagggcaggt ctacgatttc ttcatttagt gtatgctgct cttccatgca 960
accacctcag gactcctgga ttctctgct agttgagctc ctgcatgctg cctccttggg 1020
gagggtgagg agaggggccc tggttcaatg ggactgtgc agttgtacca cttagggtgc 1080
tlaataaaca gaagctgtga tgttaaaaaa aaaaaaaa 1119

```

<210> 178

<211> 164

<212> PRT

<213> Homo sapien

<220>

<221> VARIANT

<222> (1)...(164)

<223> Xaa - Any Amino Acid

<400> 178

```

Met. Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp
1          5          10          15
Val Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu
20          25          30
Gly Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val
35          40          45
Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro Leu Leu
50          55          60
Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser
65          70          75          80
Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly
85          90          95
Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Asp Ala Val
100         105         110
Ile Ala Ile Gln Ser Xaa Thr Val Gly Gly Trp Glu Cys Glu Lys Leu
115         120         125
Ser Gln Pro Trp Gln Gly Cys Thr Ile Ser Ala Thr Ser Ser Ala Arg
130         135         140
Thr Ser Cys Cys Ile Leu Thr Gly Cys Ser Leu Leu Leu Thr Ala Ser
145         150         155         160
Pro Gly Thr Leu

```

<210> 179

<211> 250

<212> DNA

<213> Homo sapien

<400> 179

```

utggagtgc t.tgggtgtttc aagccctctgc aggaagcaga atgcaccttc tgaggcacc.      60
ccagclgccc cgggccgggg gatgcggggc tgggagcacc ctggccgggc tgtgattgt      120
gccagggaact gttcatctca gtttttctgt ccttttgcctc cgggcaaggc ttctctgtga      180
aagttcacat utggagcctg atgt.cttcaac gaataaaggc cccatgctcc accgaaaaa      240
aaaaaaaaa                                         250

```

<210> 180

<211> 202

<212> DNA

<213> Homo sapien

<400> 180

```

actagtccag tgtgggggaa ttccattgtg ttggggccaa caccaatggc. acccttaaga      60
tcacccagac ccggcccttg cccgtgcacc aagctgctgc taaagacagt atgatgctta      120
ctctgtact cggaaactat ttttatgtaa ttaatglatg cttctctgtc tatcaatgcc      180
tgatttaaaa aaaaaa      202

```

<210> 181

<211> 558

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (558)

<223> n = A, T, C or G

<400> 181

```

cccytttgtt naggtttkkg agacamccc agacctwaan ctgtgtcaca gaattcyngg      60
aatgtttagg cagtgttagt aatttcytcg taatgattcc gttattactt tccctnattct      120
ttattcctct ttctctctga gattaatgaa gttgaacatt gaggtgggla aatacaaaa      180
ggtagtgtga tagtataagt atctaaagtgc agatgaaagt gtgttatata tatccattca      240
aaattatgca agttagtaac tactcagggc caactaaatt cttttaatcl gctgttgaa      300
ctactctgtt ccttggttag aaaaaattat aaacaggact ttgttagttt ggggaagucca      360
attgtaata ttctatgttc taagaagtgg gctatacata aattattaaq aatatggaw      420
tttcttccc aggaatatgg kgttcctttt atgaatatta cscrygatag awgtwtgagt      480
aaaaycagtc ttggtwaata ygtwaatatg tcmfcaataa acaakgctcl gaottatttc      540
caaaabaaaaa aaaaaaa                                         558

```

<210> 182

<211> 479

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (479)

<223> n = A, T, C or G

<400> 182

```

acagggttk grggatgcta agccccerga rwtgcttga tcaaaccttg gcttwtcttc      60
agagggggaa atggggccta gaagktacay macatytagy lqgtgogmtg gcacccctgg      120
ctccacacag atcccgagt agctgggact acaggacacac agtractgaa gcaggccctg      180
ttwgcacclc acgttgccac ctcccaattc aacattcttc atatgtgatg tccctagtea      240
ctaagggttaa acttccccc ccagaaaagg caacttagat aaaatcttag agtactttca      300

```

laetmttcta agtctctctc cagcctcact kkgagtcctm cytggggggtt gataggaant.	360
ntctcttggc ttctctcaala aartctctat ycatctcatg tctaaatttg tarcgacata	420
awtgstgaca aaatttaaat gtctctggtty martttaaa aaaaaa aaaaaa	479

<210> 183
 <211> 384
 <212> DNA
 <213> Homo sapien

<400> 183	
aggcgggagc agaaagctaaa gccaaagccc aagaagagtg gcagtggcag cactgggtgcc	60
agtaccagta ccaataaacg tgcagtgcc agtgccagca ccagtgggtg ctccagtgc	120
ggtggccagcc tgacggccac tctcacattt gggctcttcg ctggcctcgg tggagctgg	180
gccagcacca gtggcagctc tggtgctgt ggttctctct acaggtgagc ttttagatat	240
tgttaetctt gccagtcttt ctcttcaagc cagggtgcct cctcagaaac ctactcaaca	300
cagcactcta ggcagccact atcaatcaat tgaaagtgc actctgcact aratctcttt	360
gcatttctca aaaaaa aaaa	384

<210> 184
 <211> 496
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)... (496)
 <223> n = A, T, C or G

<400> 184	
accgaatttg gaccgctggc ttataagcga tcatgtyynt ccrptatkar ctcaacgagc	60
aggagagatg agtctatarg ctgaagaaat ttgaccgcat gggacaacag acctgctrag	120
cccatcctgc tgggtctctc ccagatgaca aatactctag acaccgaatc accatcaaga	180
aacgcttcaa ggtgctcatg anccagcaac cgcgcctctg cctctgaggg tcccttaaac	240
tgatgtcttt tctgccacct gttacacctc ggagactccg taaccgaact ctccggactg	300
tgagccctga tgcctttttg ccagccatac tctttggcat ccagtctctc gtygcgattg	360
attatgcttg tgtgaggcaa tcatgggtgg atccccata aagggaacac atttgacttt	420
tttttctcat attttaaat actacmagaw cattwmagaw waaatgawt gaaacactst	480
taaaaaa aaaaa	496

<210> 185
 <211> 384
 <212> DNA
 <213> Homo sapien

<400> 185	
gctggtagcc tatggcgkgg ccacaggayg ggtctctgag gccacggcac agtgacttcc	60
caagtatcyt ggcsgcgtc ttctaccgtc cttaoctgca gatcttcggg cagatcccc	120
aggaggacat ggacgtggcc ctcatygagc acagcaactg ytcgfcggag ccggcttct	180
gggcacaccc tcttggggcc caggcgggca cctgcgtctc ccagtatgcc aactggctgg	240
lqgtgctgct cctcgtcatc ttctgctcg tggcgaacat cctgclggc aactgctca	300
ttgcctatgt cagttacaca ttcggcaag tacagggcaa cagcgatctc tcttgggaag	360
gcgcagcgtt accgcccct cgg	384

<210> 186
 <211> 577

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (577)

<223> n = A,T,C or G

<400> 186

gagtttagctc	ctccacaacc	ttgatgaggt	cgtctgcagt	ggcctctcgc	ttcatcncgc	60
tnccatcgtc	atactgtagg	tttgccacca	cytcctggca	tcttggggcg	gcntaatatt	120
ccaggaaact	ctcaatcaag	tcacccgtcg	tgaacacctg	gggctgggtc	tgtcttccgc	180
tccgtgtgaa	aggatctccc	agaaggagtg	ctcgatcttc	cccacacttt	tgalgacttt	240
attgagtcga	ttctgcatgt	ccagcaggag	gttgtaccag	ctctctgaca	gtgaggtcac	300
cagcccatc	atgcgttga	mcgtgccgaa	garcacrgag	ccttctgttg	gggkkgaggt	360
ctcaccaga	ttctgcatla	ccagagagcc	gtggcacaag	acattgacaa	actcgcccag	420
gtggaaaang	amcamctcct	ggargtgctn	gcgcctcttc	gtcmgttggg	ggcagcgctw	480
tccttttgac	acacaaacaa	glttaaggga	tttctcgcgc	ccagaaantt	gtcatcatcc	540
aagatntcgc	acagcactna	tccagttggg	attaaat			577

<210> 187

<211> 534

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (534)

<223> n = A,T,C or G

<400> 187

aacatcttcc	tgtatcatgc	tgtgtaatat	cgatccgactn	ttgtctggtg	agaatycatw	60
actkggaaag	gmaacattaa	agcctgggac	ctggatttaa	aattcacaat	atgcacacac	120
lttaaacagtg	tgtcaatctg	ctccryynac	tttgtcatca	ccagcttgga	aakaagggtg	180
tgccttattc	acacctgtta	aaaggggcgt	aagcattttt	gattcaacat	cttttttttt	240
gacacacagtc	cgaasaaagc	aaaagttaaa	agttatyaat	ttgttagcca	attcactttc	300
ttcatgggac	agagccatyt	gatttaaaaa	gczaattgca	taatatggag	cttyggggagc	360
tcatatttga	gcggaagagc	agcctttcta	cttcaccaga	cacaactccc	ttcatattg	420
ggatgttnc	naaagtwtg	tctctwacag	atgggatgct	tttgtggcaa	ttctgtcttg	480
aggatctccc	agtttattta	ccacttgca	aaggaaggcgt	tttcttcttc	aggr	534

<210> 188

<211> 761

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (761)

<223> n = A,T,C or G

<400> 188

agaaaccagtc	atctctnaaa	acaaacclctc	ataccttggtg	gaacctaat	tgtgtggtg	60
tgtgtgtggtg	cgcatcttat	atagacaggc	acatcttttt	tacttttgtg	aaagcttatg	120
cctcttttggg	atctatatct	gtgaaagltt	taatgatctg	ccatnatgtc	ctggggagct	180


```

ttgltctctcty tgtaatgggt actagagaaa acacccatnt tatgagtcuu tctagcttngt 240
tttatttcgac atgaaggaaa ttccacagatn accaacactne caaacctctcc ctkgackkarg 300
gggggcacaaq auaagcuaaa ctgamcataa raaacatwa cctgggtgaga arttgcataa 360
acagaaatwr ggtagtatac tgaatnacag catcattaaa rmgtttwtktt wttctccctt 420
gcacaaaccca tgcacngact tcccgctgag taalgcuaag ttgtcttltt tatnataaaa 480
cttgcccttc attacatgct tnaaaytgyt gtggtgggnc aaatattga aatgatggaa 540
ctgactgela aaqutgtaca aataagcagt gtgcttaaca agcaacacag taatgttgac 600
atgcttaatt cacaaatgct aalttcatta taaatgtttg ctcaaatara ctctgaacta 660
ttttctctgtt ttccagagc cgagatntta gcttttatgt agtatnaagc gaaaaantac 720
gaaataata acattgaaga aaaaananaa aanaaaaaa a 761

```

<210> 189

<211> 482

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(482)

<223> n = A,T,C or G

<400> 189

```

tttttttttt ttgacgcatn ctactatttt attgcaggan gtgggggtgt atgcaccgca 60
caccgggggt. atnagaagca agaagggaagg agggagggga cagccccctg ctgagcaaca 120
aagccgcctg ctgcttctc tgtctgtctc ctgggtgagg cacatgggga gaccttccc 180
aaggcagggg ccaaccatcc aggggtggga atcaggggg tgggagtggt gcataagaag 240
tgatkygcau aggcacaccg gtacagacuu ctgggtcct gcacggtnga ttccgacag 300
gtcattgtgc cctgcccagc caccgcgtan atctggaaaa gacagaatgc ttcccttttc 360
aaatctgggt ngtcatngaa ngggcatttt tcaanttng gctnggtctt ggtacncttg 420
gttcggccca gctcncgtc caaaantat tcacccnct cnaattgct tgcngnnc 480
cc

```

<210> 190

<211> 471

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(471)

<223> n = A,T,C or G

<400> 190

```

tttttttttt ttttaaaaca gtttttaca acaaaattta ttagaagaat agtggttttg 60
aaaactctcy catccagtga gaactacgat acaccacatt acagctngga atgtntccu 120
aatgtctgggt caaatgatac aatggaacca ttcaattctta cacatgcacg aaagaacaag 180
cgtttttgac atacaatgc caaaananaa aggggggggg gaccacatgg attaaaattt 240
taagtactca tcaatatac taagacacag ttctagtera gtcnaaaatc agaactgcnt 300
tgaasaattt catgtatgca atccaacraa agaacttntt tggtagtcat gantnctcta 360
ctacatcnaa cttagatcat gccaggaaon aaagtttaa aacacnongt acaaaanana 420
tctgtaattt anltcaacct ccgtacngaa aaatntntt tacaactcc c 471

```

<210> 191

<211> 402

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (402)

<223> n = A,T,C or G

<400> 191

gagggattga	agggtctgtc	tastgtoggm	ctgttcagcc	arcaaactcta	acaagtttgt	60
gtcttccact	cactgtctgt	aagcttttta	ccccagacwg	tatcttcata	aatagaacaa	120
attcttccac	agtcacatct	tctaggacct	ttttggattc	agttagtatu	agctcttcca	180
cttcccttct	taagacttca	tctggtaagg	tcttaagttt	tgtagaaagg	aattyaattg	240
cttgttctct	aacaatgtcc	tctccttgaa	gtatttttgt	gaacaaccca	cctaaagtcc	300
ctttgtgcat	ccatttttaa	tatacttaat	agggcattgk	tnaactaggt	ttaattctgc	360
aagagtcatc	tgtctgcaa	agtttgttta	gtatctctgc	ca		402

<210> 192

<211> 601

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (601)

<223> n = A,T,C or G

<400> 192

gagctcgggt	ccaatatct	ttgtctgagg	gcagcacaca	tatncagtgc	catggnaant	60
ggtctacccc	acatgggagc	agcatgcrgt	agntatataa	ggtcattccc	tgagccagac	120
atgcytyttt	gagtaccgtg	tgccaaagtgc	tggtgattcl	yaacacacyt	ccatcccgyt	180
cttttgttga	aaaactggca	cttkctctga	actagcarga	catcacttac	aaattcaccc	240
acgagacact	tgaagggtgt	aacaaagcga	ytcttgcatt	gctttttgtc	ctccgggcac	300
cagttgtcaa	tactaacccg	ctggtcttgc	tccatcccat	ttgtgatctg	tagctctgga	360
tacatctcct	gcagtaactg	aagaacttct	totttttgtt	caaaagcacc	tcttggtgcc	420
tgtccggtcc	ggttcccatc	tcccagtcyg	aatgtccaca	tggcatattt	taattcccaa	480
aaaacattgc	gatcttgagg	tcagcaacag	caaatcctgt	tccggcattg	gctgcaagag	540
cctccgatga	gcccggccagc	gccaaaggcag	gcccgttgag	cccacccagc	agcagaagca	600
g						601

<210> 193

<211> 608

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (608)

<223> n = A,T,C or G

<400> 193

atccagccca	natccaccca	cgaagatgag	cttgttgaact	gagaacctga	tgcgggtcact	60
ggtcccgcctg	tagcccccagc	gactctccac	ctgctggaag	cagttgatgc	tgcactcytt	120
cccacacgag	gcagmagcgg	gscgggtcaa	tgaactccay	tctgsgcttg	gggtkgacgg	180
tkaagtgcag	gaagaggtctg	accacctngc	ggtccacrag	gatgcccagc	tgtgaggagc	240
ctgacgagaa	actcctcgat	ggtcattgagc	gggaagcga	tgaggcccag	ggccttgccc	300

agaacattcc	gectgttctc	tggugtcacc	tgcagctgct	gagagctgaca	ctcggguctcg	360
gaccagcgga	caaacggcct	tgaacagccg	cacctcaccg	atgcccagtg	tgtcgcgctc	420
caggammgac	accagcgtgt	ccaggtcaat	gtcgggtgaag	ccctccgcgg	gtralcggct	480
ctgcagtggt	tttctcgatg	ttctccaggc	acaggtctgc	cagctgcccc	tcatcgaaga	540
gtcgcgctg	cgtgagcagc	atgaaggcgt	tgtcggtctg	cagttctctt	tcagggaactc	600
cacgcaat						608

<210> 194

<211> 392

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(392)

<223> n = A,T,C or G

<400> 194

gaacggctgg	accttgcttc	gcattctgtg	tgttgccagg	gaataccttg	gcaaggcagyt	60
cragtccgag	cagccccaga	ccgtcgccgc	cagaagctaa	gcctgcctct	ggccttcccn	120
tccgcctcaa	tgcagaacca	gtagtgggag	cactgtgttc	agagltcaga	gtgaacactg	180
tttgatttta	cttgggaatt	tctctgttta	tatagctttt	cccaatgcta	atttccaaac	240
aacaacaaca	aaataacatg	tttgctgttc	aaattgtata	aaagtaggty	attctgtatt	300
taaaataaat	attactgtta	catatactgc	ttgcaatttc	tytatttatt	gktnctatgg	360
aaataaatat	agttatttaa	ggttgctcan	gc			392

<210> 195

<211> 502

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(502)

<223> n = A,T,C or G

<400> 195

ccattkgagg	ggtkaggkyc	cagttgccgc	gtggaagaaa	caggccagga	gaagtgcgtg	60
cagagctgag	gcagatgttc	ccacagtgac	cccragagcc	stgggatata	gtytctgacc	120
cctcncaagg	aaagaccaca	ttctggggac	atgggctgga	ggcraggacc	tagaggeacc	180
aaagggaagg	ccattccggg	ggatgttccc	cgaggaggaa	ggaagggggc	tctgtgtgac	240
cccnagagg	aagagggcct	gagtcctggg	atcagacacc	ccctcacgtg	tatccccaca	300
caantgcagg	ctnaccaggg	tccctctca	gtccctctcc	atacaccctg	amcygccaat	360
gscacacacc	cacccagagc	acgccacccg	ccatggggar	tgtgctcaag	garr.cgcngg	420
gcacgtgga	catctngtcc	cagaaggggg	caggaatctcc	aatagangga	ctyarcattt	480
gctnanaaaa	aaaaanaaaa	aa				502

<210> 196

<211> 665

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(665)

<223> n = A,T,C or G

<400> 196

gggtacttgg	t.ttcaltgcc	accacttagt	ggatgkcat	tagaaccatt	ltgtctgctc	60
cccttggaag	ccctgagcag	agcggacttt	gtatttgttg	gaggaataact	gctgaabltt	120
wagctgtttk	gagttgattt	gcaccactgc	acccacacac	tcaatatgaa	aaoyawttga	180
actwatttat	tatctttgtga	aaagtalaa	aatgaaaatt	ttgttcatac	tgtatktatc	240
aagtatgatg	aaaagcaawa	gatatatatt	cttttattat	gttaaatat	gattgccatt	300
actaatcggc	aaaatgtgga	gtgkatgttc	ttttcacagr	aaatatatgc	ttttgttaac	360
tactttggtt	attttatllgt	aaatgattta	caaaabtttt	aatttaagar	aatgggtatgt	420
watatatttt	tcatttaattt	ctttcctkgt	ttacgtwaat	tttgaanaaga	wtgcatgatt	480
ttttgacaga	aatcgatctt	gatgctgtgg	aagtagtttg	acccacatcc	ctatgggttt	540
ttcttagant	gtatataggt	tgtagcccat	ctaaacttcaa	agaaanaaat	gacnacatac	600
tttgcaatca	ggctgaaalg	tggcatgctn	ttctaatctc	aactttataa	actagcaaan	660
aagtg						665

<210> 197

<211> 492

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (492)

<223> n = A,T,C or G

<400> 197

ttttttttct	ttttttttgc	aggaaggatc	ccattttattc	tggatgcat	ttcacaatat	60
atgtttattc	gagcgatcca	ttatcagtga	aaagtatcaa	gtgtttataa	nattttttagg	120
aaggcagatt	ccacagaaac	gctngtcngc	ttgaggtttt	acctcgtaaa	gatnacagag	180
aattatagtc	naaccagtaa	acnaggatt	tactttttcaa	aaattttaat	ccaaactgaa	240
caaaattcta	ccctgaacct	tactccatcc	aaatatttga	ataanaagtc	gcagtgtatc	300
atktctttct	gaactttaga	ttttctagaa	aaatatgtaa	taagtgtcac	gaagagctct	360
tgttcaaaaag	tacaacnaag	caatgtttcc	ttaccatagg	cttcaattca	aattttgatc	420
catttcaatc	ccatcacggg	agtcabtgct	acctgggaca	cttgtatttt	gttcatnctg	480
ancttggttt	aa					492

<210> 198

<211> 478

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (478)

<223> n = A,T,C or G

<400> 198

ttttttttgc	atttcantct	gtannaanta	ttttcattat	gtttattana	aaaatatnaa	60
tgtntccacn	acaaatcatn	ttactnagt	aagaggccan	ctacattgta	caacatacac	120
tgagtatatt	ttgaaaagga	caaglttaaa	gtanacnca	attgucganc	atanacacatt	180
tatacatggc	ttgattgata	tttagcacag	caaaaactga	gtgagtacc	agaaanaaat	240
natatatgtc	aatcngattt	aagatacaaa	acagatctta	ttgtacatan	catctgtag	300
gagttgtggc	tttatgttta	ctgaaagtrc	atgcagttcc	tgtacaaaga	gatggccgta	360
agcaltctag	tacctctact	ccatgggtta	gaatcgtaaa	cttatgttta	catatgttca	420

gggtcaguat tgtgttcagc naanttatgg agaggtccan gagaaaaatt tgatncaa 478

<210> 199
 <211> 482
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> {1}...{482}
 <223> n = A,T,C or G

<400> 199
 agtgacttgc cctccncaa aaccccttga tcaagtttgt ggcactgaca atcagaccta 60
 tgcctagttcc tgcctctctc togtacttaa atgcagagctg gaggggacca azaaggggca 120
 tcaactccag ctggattatt ttggagcctg caaatctatt cctacttgta cggactttga 180
 agtgattcag ttctctctac ggaatgagaga ctggctcagc aatctctca tgcagcttta 240
 tgaagccnac tctgaaacag ctggttatctc agatgagaa ncagagaaat aaagtcnaga 300
 aatcttacct ggagaaaag aggctttingg ctgggggacc tccatttga ccttctctta 360
 onggacttta agaananaact accaratgtc tctngtatcc tggtagcagg ccgtttantg 420
 aactnngacn ncarccctctt ggaatanant cttgacngcn tccagaactt gctcctctgc 480
 ga 482

<210> 200
 <211> 270
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> {1}...{270}
 <223> n = A,T,C or G

<400> 200
 cggcccgcaag tgcactcca gctggggccg tgcggagcga gattctgccc gcagttggtc 60
 cgactgcccgc gacggcggcg ggcacagctg cagggtgcagc gcggggccct ggggtcttgc 120
 aaggttgagc tgcagccgca gaggctcgtg cagctccacc gaccttgacc ccgtcgggga 180
 cagccgggac agagcccggt gaagccggga ggcctcgggg agtccctcgg gaagggcggc 240
 ccgagagata cgcaggtgca ggtggccgcc 270

<210> 201
 <211> 419
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> {1}...{419}
 <223> n = A,T,C or G

<400> 201
 tttttttt ttttggatc tactgcagac acagcaggtc agcacaagc tlattttgca 60
 gctagcaagg taacagggta gggcatggtt acatgttcag gtcaccttcc tttgtcgtgg 120
 ttgactgggt tgtctttatg ggggcggggt ggggtaggga aacncaagc aanaataaca 180
 tggagtggtt gcaacctccc tttagaacct ggttccnaaa gcttggggca gttcacctgg 240

tctgtagacag	tcatttttctt	gacatcaabg	ttattagaag	tcaggatatu	ttttagagag	300
tcactgtnt	ctggagggag	attaggggtt	cttgcccaaa	tcacaaacaa	alcacacntga	360
aaaagtggg	tqatncangt	acngaatarc	gagggcatan	ttctcatant	cggtggcca	419

<210> 202

<211> 509

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (509)

<223> n = A,T,C or G

<400> 202

tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	60
tggcatttaa	tccattttta	tttcaaaatg	tctacaaant	ttcaatncnc	cattatacng	120
gtatatttnc	aaaatctaaa	ntttattcaa	atctnagcca	aantccttac	ncaaatnaaa	180
tacnncaaaa	aalcacaaat	atactntntt	ttcagcaaac	ttngtcccat	aaattaaaaa	240
aatatatacg	gctgggtgtt	tcaaaagtaca	attatcttaa	cactgcaaac	atntctnaaa	300
ggaactaaaa	caaaaaaaaa	cactnccgca	aaggttaazg	ggaacaaaca	attcatttta	360
caacancncn	nattataaaa	atcctatctc	aattcttagg	ggaatatata	cttcaaacng	420
ggatcttaac	ttttactnca	ctttgtttat	tttttttana	ccattgnttt	gggccaaca	480
caatggnaat	ncnccncnc	tggactagt				509

<210> 203

<211> 583

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (583)

<223> n = A,T,C or G

<400> 203

tttttttttt	ttttttttga	ccccctctct	atanaaaaca	agtlacatt	ttatttlaet	60
tacacatatt	tatttcttaa	ttggtattag	atattcaaaa	ggcagctttt	aaaatcaaac	120
taaaatggaa	ctgccttaga	tacataatct	ctaggaatta	gctlaaaatc	tgccctaaagt	180
gaaaatcttc	tctagctctt	ttgactgtaa	attttctgact	cttgtaaaac	atocaaattc	240
attttctctg	tcttttaaat	tatctaactt	tccatttttt	tccctattcc	aagtcaattt	300
gcttctctag	cctcatttcc	tagctcttat	ctactattag	taagtggctt	ttttcctaaa	360
agggaaaaaa	ggagagana	atggcaacaa	aaacaacat	tttatattca	tatttctacc	420
tacgttaata	aaatagcatt	ttgtgaagnc	agctcnaaag	aaggcttaga	tctttttatg	480
tccattttag	tcaataaaag	atatcnaaag	tgcacgaatg	caaaagggtt	gtgaacattt	540
attcaaaagc	tactataaga	tatttcacat	actcatcttt	ctg		583

<210> 204

<211> 589

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (589)

<223> n = A,T,C or G

<400> 204

tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	60
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	120
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	180
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	240
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	300
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	360
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	420
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	480
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	540
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	589

<210> 205

<211> 545

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(545)

<223> n = A,T,C or G

<400> 205

tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	60
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	120
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	180
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	240
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	300
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	360
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	420
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	480
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	540
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	545

<210> 206

<211> 487

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(487)

<223> n = A,T,C or G

<400> 206

tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	60
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	120
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	180
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	240
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	300
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	360
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	420
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	480

ttcaaaa

487

<210> 207
 <211> 332
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(332)
 <223> n = A,T,C or G

<400> 207
 tgaattggct aaaaagatgc atttttanaa cuagcaactc ttatttcttc cttttaaaaa 60
 tacataquat taatcccaa atcctattta aagacctgac agcttgagaa ggtcactact 120
 gcatttatag gacctcttgg tggttctgct gttacntttg aantctgaca atccttgana 180
 atcctttgcat guagggagg taaaaggtat tggattttca cagaggaana acccagcgca 240
 gaaatgaagg ggcacgggtt actgagcttg tccactggag ggtcctaggg tgggacatgg 300
 aaaaagaggt agcctaggcc ctggggaguc ca 332

<210> 208
 <211> 524
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(524)
 <223> n = A,T,C or G

<400> 208
 agggcggtggc gcaaggaggc ttactgtttt gtctcagtaa caataaatac aaaaagactg 60
 gctgtgttcc ggcacctcc aaccacgag ttgatttctc ttgtgtgcag agtgactgat 120
 tttaaaggac atggagcttg tcacaatgtc acaatgtcac agtgggagg gcacactcac 180
 tcccggtga ttacattta aacttgaga tgataactaa gatccaagat atttcccaa 240
 tttggcagaa tccctttga aacttgaga tgataactaa gatccaagat atttcccaa 300
 gtaaatagaa gtgggtcata atatttaata cctgttaca ttaggttcca tttaagtc 360
 atgagccag acactgacat caaactaagc ccaacttagc tctcaccac cagtctgtcc 420
 tgtcataga caggaggctg tcaccttgac caaatttca ccagtcacac atctatccaa 480
 aaaccattac ctgatccact tccggtaatg caccacttg gtga 524

<210> 209
 <211> 159
 <212> DNA
 <213> Homo sapien

<400> 209
 gggtagggaa atccaggtt gccatggaga aaattccagt gtcagcattc ttgctccttg 60
 tggcctctc ctacactctg gccagagata ccacagtcaa acctgaggtc aaaaaggaca 120
 caaaggactc tgcacccaaa ctgcccaga cccctctca 159

<210> 210
 <211> 256
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(256)
 <223> n = A,T,C or G

<400> 210
 actccctggc agacaaaggu agaggagaga gctctgttctg ttctgtgttg ttgaactgcc 60
 actgaatttc ttccacttg gactattaca tggcatttga gggactaatg gaaaaacgtc 120
 tggggagatt. ttaccaatt tangtntgtt aatggggaga ctggggcagg cgggagagat 180
 ttgcaggttg naaatgggan ggctggtttt ttaatatgaac agggacatag gaggt.aggca 240
 ccaggatgct aatcca 256

<210> 211
 <211> 264
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(264)
 <223> n = A,T,C or G

<400> 211
 acattgtttt tttagatca agcattgaga gagctcttct taactgacac caattggaagg 60
 actggaaacac ataccacat ctctgtctct agggataatt ttctgataaa gtcttgctgt 120
 atattcaagc acatctgcta tatattattt agttccatct ttatagccta gtttaaggaga 180
 gggggagatac attcgaag aggaactgaa gaaatactca agtnggaaaa cagaaaaaga 240
 aaaaaaggag caattgaga gcct 264

<210> 212
 <211> 328
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(328)
 <223> n = A,T,C or G

<400> 212
 acccaaaaat ccaatgttga atatttggct tcatttatter caatttcttt gattgtcaaa 60
 ggtattaatg ttgtctcagc ttgggcactt cagttaggac ctagggatgc caggctggcag 120
 gtttatctat gcagcaacaa tattcaagca cgacaacagg ttatcgaaat tggccgccc 180
 tttaatttca ttccatttga ctgggatacc ttatcatcag ccagagagat tgaataattt 240
 cccctacnac tctttactct ctgganaggy ccagtggctgg taqctataag cttggccaca 300
 tttttttttt cttttattct ttgtcaga 328

<210> 213
 <211> 250
 <212> DNA
 <213> Homo sapi n

<220>
 <221> misc_feature

<222> {1}... (250)

<223> n = A,T,C or G

<400> 213

acttatgagc agagcgacat atccnagtgt agactgaata aaactgaact ctctccagtt	60
taaagcattg ctccctgaag ggatagaagt gactgccagg agggaaagta agccaaaggt	120
cattatgcca aagganatat acatttcaat tctccaaact tcttctcat tccaagagtt	180
ttcaatattt gcctgaacct gctgataaag catgttaana aacaaatata tctctnacct	240
tctccteggt	250

<210> 214

<211> 444

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}... (444)

<223> n = A,T,C or G

<400> 214

accagaaac caatgcctgaa catttggtct cattattccc agatctcttc attgtcaaag	60
gatttaattg tctctcagct tgggcacttc agttaggacc taaggatgcc agccggcagg	120
tttatatatg cagcaaacat attcaagcgc gacaaacagg tattgaactt gcccgccagt	180
tgaatttcac tccctttgac ttgggtctct tatcatcagg canagagatt gaaattttac	240
ccctacgact ctttactctc tggagagggc cagtggctgg agctataagc ttggccacct	300
tttttttttc ttctattctt tgcacagagc ggcattcacc calatgctan aaaccacacg	360
agtgcctttt acaaaattcc tatagaaatt gtgaatcaca ccttacctat agttgccatt	420
actttgctct ccttaatatc cctc	444

<210> 215

<211> 366

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}... (366)

<223> n = A,T,C or G

<400> 215

acttatgagc agagcgacat atccaaagtgt aaactgaata aaactgaatt ctctccagtt	60
taaagcattg ctccctgaag ggatagaagt gactgccagg agggaaagta agcnaaggt	120
cattatgcca aagganatat acatttcaat tctccaaact tcttctcat tccaagagtt	180
ttcaatattt gcctgaacct gctgataaag catgttgaga aacaaatata tctctgaact	240
tctccteggt aagcagagggc tctaggcaac atggaaacata gcaaancaaa aacttagtaa	300
tccaagctgt ttctctacact gtaaccagggt ttccaaccac ggtggaaatc tcttataact	360
ggtgoc	366

<210> 216

<211> 260

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature
 <222> (1) ... (260)
 <223> n = A,T,C or G

<400> 216

ctgtataaac	agaactccac	tgcangaggg	agggccgggc	caggagaatc	tccgcttgtc	60
caagacaggg	gcctaaggag	ggctccacac	ctgctnntaa	gggtcttttc	atttttttat	120
taataaaaag	tnnadaaggg	ctcttctcaa	cttttttccc	tctggctggg	aaatttaaaa	180
atcnaaatt	tctnaagtt	ntcaagctat	catatacacc	ntatcctgaa	aaagcaccat	240
aattcttccc	tccctccttt					260

<210> 217
 <211> 262
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (262)
 <223> n = A,T,C or G

<400> 217

acctacgtgg	gttaagtttan	aaatggtata	atttcaggaa	naggaacgca	tataattgta	60
tcttgcttat	aattttctat	tttaataagg	aaatagcaaa	ttggggtggg	gggaattgtag	120
ggcatctcac	agtttyagca	aaatgcaatt	aaatgtggaa	ggacagacct	gnaaaatttt	180
atgaataatc	tgtatgatta	tctgtctcta	gagtagattt	ataattagcc	actcacccta	240
atctcctcca	tgcctgtaaa	gt				262

<210> 218
 <211> 205
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (205)
 <223> n = A,T,C or G

<400> 218

accaaggtgg	tycattacag	gaantggatc	aangacarca	tctgggcaca	ccctgagca	60
ccctatcraa	ctcccttttc	tagtaaat	ggaaccttyg	aatgacacag	gccaagartc	120
aggcctcccc	agttctactg	acntttgtcc	ctangtntna	ngtccaggg	tgctaggaaa	180
anaratcagc	agacacaggt	gtaaa				205

<210> 219
 <211> 114
 <212> DNA
 <213> Homo sapien

<400> 219

tactgttttg	tctcagtaac	aataaataca	aaaagartgg	ttgtgttccg	gcacacatcca	60
accangaagt	tgattttctc	tgtgtgcaga	gtgaactgatt	ttaaaggaca	tgga	114

<210> 220
 <211> 93

<212> DNA

<213> Homo sapien

<400> 220

actagccagc	acaaaaggua	gggtagcctg	aattgcttcc	tgtctcttcau	atttctctta	60
aaatagcat	ttagtgcctc	gtccctactg	agt			93

<210> 221

<211> 167

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}... (167)

<223> n = A,T,C or G

<400> 221

actangtgc	ggtagccaca	aatatttgtc	gatattccct	tcactcttga	ttccatgagg	60
tcttttgccc	agcctgtggc	tctactctag	taagtctctg	ctgatgagg	gccagatgc	120
ccccactac	cttccctgac	gtcccccana	aatcacccaa	cctctgt		167

<210> 222

<211> 351

<212> DNA

<213> Homo sapien

<400> 222

agggcctggt	gcggaggggc	gtactgacct	cattagtagg	aggatgcatt	ctggcaccoc	60
gtttttcacc	tgtcccccac	tccttaaaag	gccatctctc	ataaagtcaa	caacagataa	120
atgtttgctg	aattaaagga	tggatgaaa	aaattzataa	tgaattcttg	cataatccaa	180
ttttctcttt	tatatttcta	gaagaagttt	ctctggacct	attagatccc	gggaatcttt	240
taggtgagca	tgattagaga	gcttgtaggl	tgcttttaca	tatctctggc	atatttgagt	300
ctcgtatcaa	aacaatagct	tggtaaggt	ggtaattctg	cattgataag	t	351

<210> 223

<211> 383

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}... (383)

<223> n = A,T,C or G

<400> 223

aaacacacac	aacaaaaaa	acattcttcc	attcagaaaa	attatcttag	ggactgatat	60
tggtaattat	ggtcaattta	atwrtttkt	ggggcatttc	cttaccattgt	cttgacaaqa	120
ctaaatgtc	tgtgcacaaa	ttttgtattc	tatttgagga	cttcttatca	aaagtaatgc	180
tgcacaaagg	agctcaagga	attagtagtg	ttccmfcac	ctgtttggag	tgtgctatcc	240
taaaagattt	tgatttccctg	gaatganaat	tatattttca	ctttggtggg	ggaaanagtt	300
ataggaccac	agctcttccct	tctgatactt	gtaaatctaat	cttttattgc	acttgctttg	360
accatttaagc	tatatgttta	aaa				383

<210> 224

<211> 320

<212> DNA

<213> Homo sapien

<400> 224

CCCTGGAAGG	CTTCTTGTTA	GAAGATAGTA	CAGTTACGAC	CAATAGGAAC	AACAAAAGA	60
AAAAGTTTGT	GACATGTAT	TAGGGAGTGT	GTACCTCTTA	CTCCCTATCA	AAAAAAAT	120
GGATACATGG	TTAAAGGATA	TAAGGGCAAT	ATTTTATCAT	ATGTTCTAAA	AGAGGAGGAA	180
GAGAAAATAC	TACTTCTCT	AATCGGAAGC	CCCTAAAGGT	GCTTTGATAC	TGAAGGCTAC	240
AAATGTGGCC	GTCCATCCTC	CTTARAGTT	GCATGACTTG	GACACGGTAA	CTGTTGCACT	300
TTTAACTTCT	GCATTTGTA					320

<210> 225

<211> 1214

<212> DNA

<213> Homo sapien

<400> 225

GAGGACTGCA	GCCCGCACTC	GAAGCCCTGG	CAGGCGGCAC	TGGTCATGGA	AAACGAATTG	60
TTCTGTCTGG	GGGTCTCTGG	GCATCCGCAQ	TGGGTGTCTG	CAACCGCACA	CTGTTTCCAG	120
AATCTCTACG	CCATCGGGCT	GGGCTGTGAC	AGTCTTGAGG	CCGACCAAGA	GCCAGGGAGC	180
CAGATGGTGG	AGGCACAGCT	CTCTGTAGGG	CACTCAGAGT	ACCAACAGACC	CTTGTCTCGT	240
AACGACCTCA	TGTCTATCAA	GTCTGACGAA	TCCGTGTCTG	AGTCTGACAC	CTCTCGGAGC	300
ATCAGCATTT	CTTCTGAGTG	CCCTACCGCG	GGGAACCTTT	GCCTCTTTCT	TGGCTGGGCT	360
CTGCTGGTGA	ACGGCAGGAT	GCCTACCTGT	CTGCACTGCG	TGAACGTGTC	GGTGGTGTCT	420
GAGGAGGTCT	GCAGTAAGCT	CTATGACCCG	CTGTACCAAC	CCAGCATGTT	CTGCGCGGCT	480
GGAGGGCAAG	ACCAAGGGA	CTCTGTCAAC	GGTGACTCTG	GGGGGCCCCC	GATCTGTCAAC	540
GGGTACTTGC	AGGGCTCTGT	GTCTTCTGGA	AAAGCCCCGT	GTGGCAAGT	TGGCTGTCCA	600
GGTGTCTACA	CCAACTCTCT	CAAACTCTCT	GGTGGATAG	AGCAAACTCT	CCAGGCCAGT	660
TAACTCTGGG	GACTGGGAAC	CCATGAATTT	GACCTCTCAA	TACATCTCTG	GGGAAGGAATT	720
CAGGAATATC	TGTTCTCAGC	CCCTCTCTCC	TCAAGGCTCAG	GAGTCTCAGG	CCCCAGCCCC	780
TCCTCTCTCA	AACTAAGGGT	ACAGATCTCC	AGCCCCCTCT	CCCTCAGACC	CAGGAGTCTA	840
GACCTCTCAG	CCCTCTCTCT	CTCAGACCTA	GGAGTCTCAG	CCCTCTCTCT	TAGAGCTCAG	900
GGTCTCAGAC	CCCTCAGCCC	CTCTCTCTCT	AGACCTCAGG	GTCTCAGGCC	CCAACTCTCT	960
CTCTCTCAGA	CTCAGAGGTC	CAAGCTCTCT	ACCTCTCTCT	CCCTCAGACC	AGAGGTCTCAG	1020
GTCTCTCAGG	CTCTCTCTCT	AGCTCTCAGG	GTCTCTCTCT	ACCTCAGACT	TCTCTGTACA	1080
CAGTCTCTCT	TTGTTGGTCA	TTGACCTAAC	CTTACCTAGT	GGTCTCTCTCT	TTCTTGTCTCT	1140
TTCTCTCTCT	ATCAGAAAT	AAAGTCTCAG	AGAGCTCTCA	AAAAAAATAA	AAAAAAATAA	1200
AAAAAAATAA	AAAA					1214

<210> 226

<211> 119

<212> DNA

<213> Homo sapien

<400> 226

ACCCAGTATG	TGCAGGGAGA	CGGAACTCTA	TGTGACAGCC	CACTCTCTCA	GGGTTCTCAA	60
AGAATCTGGC	CCAGTCTATA	TCATCTCTCT	TGACAGTGGC	AACTCTCTCA	ATAACCACT	119

<210> 227

<211> 818

<212> DNA

<213> Homo sapien

<400> 227

acaattcaca	gggacgacca	atgaggacag	ggatgaacc	cggctctccc	ccagccctga	60
tttttctac	atatgggglc	ccttttcat	ctttgcaaaa	acactgggtt	ttctgagaac	120
acggacggll	cttagcaca	tttgtgaaat	cttgttaraa	ccggactttg	caggggagat	180
atttttctc	ctctggagga	aaggttggtga	ttgacaggca	gggagacagt	gacaaggcta	240
gagaaagcca	cgctcggcct	tctctgaaac	aggttggaac	ggcagacccc	tgaaaacgaa	300
gcttctcccc	ttccaatcag	ccacttctga	gaacccccat	ctaacttctt	actggaaaag	360
agggcctccc	caggagcagt	ccaagagbtt	tcaagataaa	cgtgacacut	accatctaga	420
ggaaagggtg	caacctcagc	ayagagcccg	agagctlaaa	tctggctcgt	tcuagagaca	480
acctgctggc	tytcttggga	tgcgcccagc	ctttgagagg	ccactacccc	atgaacttct	540
gcctatccact	ggacatgaa	ctgaggacac	tgggcttcan	cactgagttg	tcctgagagg	600
gacaggctct	gcccccaagc	cggctgaggg	cagcaaccac	tctcctcccc	tttctcagcc	660
aaagccattc	ccacaaatcc	agaccatacc	atgaagcaaa	gagaccraaa	cagtttggct	720
caagaggata	tgaggactgt	ctcagccctg	ctttgggctg	acacccatga	cacacacaa	780
gtccacttct	aggtttctca	cttagatggg	agtctgct			818

<210> 228

<211> 744

<212> DNA

<213> Homo sapien

<400> 228

actggagaca	ctgttgaact	tgttcaagac	ccagaccacc	ccaggtctcc	ttctgaggat	60
gtcatgacgt	ttgacalacc	tttggaaacga	gcctccctcc	tggaaagatgg	aagaccgtgt	120
tcgtggccga	cctggcctct	cctggcctgt	ttcttaagat	gggaggtcac	atttcaatgg	180
tgggaaaggt	ggcttngtaa	aatagaagag	cagtcactgt	ggaaactacca	aatggcgaga	240
tgtctgggtg	acattggggg	gctttggggt	aaagatttca	tggagccaaat	attctctggc	300
acacagattct	aggccagttt	gttccactga	agcttttccc	acagcagtrc	acctctgcag	360
gctggcagct	gaatgggttg	ccggtgggtc	tgtggcaaga	tcacactgag	atcgatgggt	420
gagaaggcta	ggatgctctg	ctagtgttct	tagctgtcac	gttgggtccct	tcacagtttg	480
ccagacgggt	ttggccactc	ccttctaaaa	ccagggcgcc	ctcctgggtga	cagtgaaccc	540
ccgtggctat	ccttggccca	ttccagcagt	ccagtttatg	catttcaagt	ttggagtttg	600
ttcttttctg	taatgttccct	ctgtgttgtc	agctgtcttc	atttccctggg	ctaacgagca	660
ttgggagatg	tygaccagag	atccactccct	taagaaccag	tggcyaaga	cactttctct	720
cttcaactct	aagttagctgg	tgggt				744

<210> 229

<211> 300

<212> DNA

<213> Homo sapien

<400> 229

cgagttctgg	ttctgtctat	aaagtttgat	ccctcccttt	ctcatcccaa	tcattgtgaa	60
cattacacat	cgaataaaaa	gaaaggtggc	agacttgcct	aaagccaggc	tgacatgtgc	120
tgcagggttg	ttgtttttta	attattatct	ttgaaacgt	caacccacagt	ccctgttaat	180
ttgtatgtga	cagccaactc	tgagaaaggt	ctatttttcc	acctgcagag	gatccagttc	240
cartaggctc	ctccttggcc	tcacactgga	gtctccgcca	gtgtgggtgc	ccactgacat	300

<210> 230

<211> 301

<212> DNA

<213> Homo sapien

<400> 230

caquagaaca	aatacgaata	tgaagagtgc	aaagatutca	taaaatctal	actgaggaa	60
gagcgacagt	tcaggaggga	gaagcttaca	gagcagctca	agcaagctga	ggagctcagg	120

caatataaag	tccctggttca	cactcaggga	cagagagctga	cccagtttaag	ggagaaggttg	180
cgggaaggga	gagatgccctc	cctctcattg	aatgagcatc	lccagggccct	cctcactccg	240
gntgaaucgg	acaaagtcca	ggggcaggga	clccaaagaa	cagacctcgg	ccgcyaccac	300
g						301

<210> 231
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 231						
gcaagcagcg	tggcaaatct	ctctcagggtc	agctccagag	aagccattag	tcattttagc	60
caggaaactcc	aagtcacat	ccttggcaac	tgggagcttg	cgcagggttag	ccttgaggat	120
ggcaacacgg	gacttctcat	caggaagtgg	gatgtagatg	agctgatcaa	gacggccagc	180
tctgaggatg	gcaggatcaa	tgatgtcagg	ccggttggtg	cggcaatga	tgaacacatt	240
ttttcttggtg	gacatgccat	ccatttctgt	caggatctgg	ttgatgactc	ggtcagcagc	300
c						301

<210> 232
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 232						
agtaggtatt	tctgagagag	ttcaacacca	aaactgggac	atagttctcc	ttcaagtgtt	60
ggcgaacagc	gggttccctg	attctgggaat	ataactttgt	gtaaattaac	agccacctat	120
agaagagtcc	atctgctgtg	aaggagagac	agagaactct	gggttccgtc	gtcctgtccc	180
cgtgctgtac	caagtgtctg	tgcacgcctg	ttacctgttc	ccactgaaa	tctggctaat	240
gctcttgtgt	atcatttctg	attctgacaa	tcaatcaatc	aatggcctag	agcactgact	300
g						301

<210> 233
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 233						
atgactgact	tccagtttaag	gctctctaaag	gggttaagttag	gaggutccac	aggatttgaag	60
atgctaaggc	cccagagatc	gtttgatcca	acccctcttat	ttccagaggg	gaaatcgggg	120
cctagaagth	acagagcatc	tactgtgtgc	gctggcaccu	ctggctccac	acagactccu	180
yagttagctgg	gactacaggc	acacagtcac	tgaagcaggc	cctgtttagca	attctatgag	240
tacaaattaa	cctgagatga	gtagagactt	tattgagaaa	gcaagagaaa	atcctatcaa	300
c						301

<210> 234
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 234						
aggtcctaca	cactgagact	cateratgat	tgatatgaat	ttaaaactta	caagcaaaaga	60
catttttattc	atcatgatgc	tttcttttgt	ttcttctttt	cgctttcttc	ttttcttttt	120
tcatttccag	caactaactt	ctcaatttct	tcaggattta	aaatctttag	ggattgatct	180
cgctcatga	cagcaagttc	aatgttttgt	ccacttgact	gaaccattc	caggagtgcc	240
ttgatccca	gcttaatggg	cagatcatct	gottcaatgg	cttcgttcag	atagttcttc	300

t 301

<210> 235
 <211> 283
 <212> DNA
 <213> Homo sapien

<400> 235
 tggggctgtg catcaggcgg gtttgagaaa tattcaattc tcagcagaag ccagaatttg 60
 aattccctca tcttctaggg aatcatttar cagggttggg gaggattcag acagctcagg 120
 tgccttcact aatgtctctg aacttctgtc cctctttgtt catggatagt ccaataaata 180
 atgttatctt tgaactgagc ctcataggag agaattatag aactctgagt gatataca 240
 ttagggattc azugaaatat tagatttaag ctccactgg tca 283

<210> 236
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 236
 aggtccctca ccaactgcct gaagcacggt taaaattggg mogaagtata gtgcagcata 60
 aatactttta aatcgatcag atttccctaa cccacatgca atcttcttca ccaagaagagg 120
 tcggagcagc atcatttaata ccaagcagaa tgcgtaatag ataaatacaa tggatatatg 180
 tgggtagacg gcttcgatg tucagtgtac tgtggtatcg taatctggac ttgggttcta 240
 aagcatcgtg taccagtcag aaagcatcaa tactcgacac gaacgaatat aaugaacacc 300
 a 301

<210> 237
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 237
 cagtggtagt ggtggtggac gtggcgcttg tctggtgccc ttttttgggtg ccngtcacaa 60
 actcaatttt tgttcgctcc ttttttggcct ttccaattt gtcacatcca attttctggg 120
 ccttggctaa tgcctcatag taggagtcct cagaccagcc atggggatca aacatatect 180
 ttgggtagct ggtgccagc tegtcaatgg cacagaatgg atcagcttct cgtaaatcta 240
 gggttccgaa attctttctt ccttgggata atgtagttca tatccattcc ctcccttate 300
 t 301

<210> 238
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 238
 gggcagggttt tttttttttt ttttttgatg gtgcagaccc ttgcttctatt tgtctgaatt 60
 gtccacagtt cagccccctg ctccagaaac caacggggcca gctaaggaga yggaggaggca 120
 ccttgagact tccggagtcg aggtcttcca gggttcccca gccatcaat catcttctgc 180
 accccctgce tgggaagcag ctccctgggg ggtgggaatg ggtgactaga agggatttca 240
 gtgtgggacc cagggtctgt tcttcacagt aggggtgga agggatgact aatttcttta 300
 t 301

<210> 239
 <211> 239

<212> DNA

<213> Homo sapien

<400> 239

ataagcagct aggggaattct ttatttagta atgtcctaac ataaaagttc acataactgc	60
ttctgtcaaa ccatgatact gagctttgtg acanccaga aataactaag agaaggcaaa	120
cataatccct tagagatcaa gaacatctta cacagttcaa ctgttcaaaa atagctcaac	180
attcagccag tgagtagagt gtgaatgcca gcatacacag tatcacaggtc cttcagggg	239

<210> 240

<211> 300

<212> DNA

<213> Homo sapien

<400> 240

ggctctaattg aagcagcagc tccacattt taacgcaggt ttcagggtgat actgtccttt	60
gggatctgcc ctcaagtggg accttttaag gaagaaagtgy gcccaagcta agtcccacat	120
gctgggtgag ccagatgact tctgttccct ggtcaccttc tccaatgggg cgaatggggg	180
ctgccaggtc tctaaaatca tgcctcatct tgagcacaac ggtcaccttc cctcctcac	240
gctgtgggtg tactttgatg aaaataccca ctttgttggc ctttctgaag ctataatgtc	300

<210> 241

<211> 301

<212> DNA

<213> Homo sapien

<400> 241

gaggtctggg gctgaggtct ctgggctagg aagaggagtt ctgttggagt ggaagccaga	60
cctcttttga ggaacttcca gcagctatgt tgggtgtctt gagggaatgc aacaaaggctg	120
ctcctccatg tattggaaaa ctgcaactg gactraactg gaaggaaagt ctgctgccag	180
tgtgagaaac cagcctgagg tgacagaaac ggaagcaaac aggaacagcc agtcttttct	240
tctcctcct gtcatacggc ctctctcaag cctccttctg tgtcaggggc ctaaaagggg	300

g

301

<210> 242

<211> 301

<212> DNA

<213> Homo sapien

<400> 242

ccgaggtcct gggatgcaac caatcactct gttracgtg acttttatca ccatacaatt	60
tgtggcattt cctcattttc tacattgtag aatcangagt gtaataaat gtatctgat	120
gtcttcaaga atatacatt cctttttcac tgaacccat tcaaatata agtcaagaat	180
ctcaatatca acaaatatat caagcaaac ggaaggcaga ataactacca tantttagta	240
taagtaccca aagttttata atcaaaaagc cctantgata accattttta gaattcaatc	300

a

301

<210> 243

<211> 301

<212> DNA

<213> Homo sapien

<400> 243

aggtaagtcc cagtctgag ctcaaaagat ctggatagag cataggctca tgcacgacat	60
ggtygccccaa gctatgaat cagagggagg ctcatctg gctgtatata actatgatgg	120

```

tgacgtgcag tcggactcty tggcccaagg gtatggctct ctgggcatga tgaccagcgt    180
gctggtttgt ccagatggca agacagtaga agcagaggct gccacggga ctgtacccg    240
ccactacggc atgtccaga aaggacagga gacgtccacc aatcccatg ctccatttt    300
t                                                    301

```

<210> 244
 <211> 300
 <212> DNA
 <213> Homo sapien

```

<400> 244
gctggtttgc aagaatgaaa tgaatgattc tacagctagg acttaacctt gaaatggaaa    60
gtcatgcant cccatttgcg ggatctgtct gtgcacatgc ctctgttag agcagcattc    120
ccagggacct tggaaacagt tgacactgta aggtgcttgc tccccaagac acatccctaa    180
aggtgtctga atggtagaaa cgtcttcctt ctttcttgc cctctttatt tatgtgaaco    240
actgtttgtc ttctgtgtat cttttttaa ctytaaaagt caattgtgaa aatgnatgc    300

```

<210> 245
 <211> 301
 <212> DNA
 <213> Homo sapien

```

<400> 245
gtctgagtat tttaaatgtt attgaaatta tccccaacca atgttagaag agaagagggt    60
tatatactta gataaaaaat gaggtgaatt actatccatc gaaatcatgc tcttagaatt    120
aaggccagga gatattgtca ttaatgtara ctccaggaca cttagagtata gcagccctat    180
gttttcgaag agcagagatg caattaaata ttgttttagc tcaaaaaggc caatcaatac    240
agctantaaa atgaagacc taatttctaa agcaattctt tataatttcc aaagttttaa    300
g                                                    301

```

<210> 246
 <211> 301
 <212> DNA
 <213> Homo sapien

```

<400> 246
ggctcgtcct acastgcctg ctctctgaaa gaagtcggca ctctctagaa tagctaata    60
acctgggctt attttaaaga actatttcta gctcagattg gttttcctat ggctaaaata    120
agtgccttct gtgaaaatta aataaaacag ttaattcaaa gccctgatat atgttaccac    180
taacaatcat actaaatata tttgaagta caaagtctga catgctctaa agtgacaacc    240
caaatgtgtc ttaacaaaca cgttcctaac aaggtatgct ttacactacc aatgtagaaa    300
c                                                    301

```

<210> 247
 <211> 301
 <212> DNA
 <213> Homo sapien

```

<400> 247
aggtcctttg gcagggtcca tggatcagag ctcaaactgg agggaaaggc attcgggga    60
gcctaaggag gcgactggcg gcagcacacc caagggaagg aaggttgttt cccccacgcc    120
gtgtcctgtg ttcagggtcg acacacaatc ctcatgggaa caggatcac catgctctgc    180
ccttgatgat caagggtggg gctcaagtg attaaggagg gcaagttctg ggttcttgc    240
cttttcaaac catgaagtca ggtctgtgat ccttcttctt cctaactgat attctaacta    300
a                                                    301

```

<210> 248
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 248
 aggtccttgg agatgcatt. tcagccggaag gactcttctw ttcggaagta caccctcact 60
 attaggaaga ttcttagggg taattttctt gaggaaggag aactagccaa cttaagaatt 120
 acaggaagaa agtgggttgg aaacacagcca aggaataaaa agcagattaa attgtatcag 180
 gtacattcca gctgtttggc aactccataa aaacatttca gattttaate ccgaatttag 240
 ctaatgagac tggatttttg tttttttctg tgtgtgtcgc agagctaaa aactcagttcc 300
 c 301

<210> 249
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 249
 gtccagagga agcacttggg gctgaactag gcttggcctg ctgtgaactt gcacttggag 60
 ccttgacgct gctgttctcc cggaaaaacc cgaccgacct c'g'cgatctc cgtcccgccc 120
 ccagggagac acagcagtga ctacagagctg gtcgcacact gtgctccct cctcaccgac 180
 catgtaatg aathattttg aaatttaatt ccaccatcct ttccagattct ggatggaaag 240
 actgaatctt tgaactagaa ttgtttgctg aaagaagtga tgtgacttct ttagtcattt 300
 a 301

<210> 250
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 250
 ggtctgtgac aaggacttgc aggctytggg aggcaagtga cccctaacac tacatttctc 60
 ctatctctta ttggttgat aaacataatt atttctaacu ctagcttatt tccagttgac 120
 cataagcaca ccagtacttt tctctggctg gaatagttaa ctaaagtatg gtacatctac 180
 ctaaaagact actatgtgga ataatacata ctatgaagt attacatgat tttaaagacta 240
 caataaaacc aaacatgctt ataacattaa gaaaaacaa aaagatacat gattgaaacc 300
 a 301

<210> 251
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 251
 gccgaggtcc tacatttggc ccagtttccc cctgcaccc ctccagggcc cctgctcat 60
 agacaaacct atagagcata ggagaactgg ttgcccctgg ggacagggga ctgtctggat 120
 ggcaggggtc ctcaaaaatg ccactgtcac tgcagggaaa tgcctctgag cagtacacct 180
 cattgggac aatgaaaagc ttcaagaaat ctccaggtcc accctcttga aggcccgga 240
 cctctggagg ggggcagtgg aatcccagct ccaggacgga tctgtctgaa aagatatcct 300
 c 301

<210> 252
 <211> 301

<212> DNA

<213> Homo sapien

<400> 252

gcaaccaatc actctgttcc acgtgacttt taccaccata caatttgtgg caatttctcca	60
ttttctacat tctagaatca agagtgtaaa taaatgtata tcatgtctt caagaatata	120
tcattctctt ttcactagga acccattcaa atataagtc aagaatctta atatcaacaa	180
atatatcaag caaactggaa ggcagaatca ctaccataat ctagtataag taaccaaggt	240
tttatcaatc aaaagcccta atgataacca tttttagaat tcaatcatca ctgtagaatc	300
a	301

<210> 253

<211> 301

<212> DNA

<213> Homo sapien

<400> 253

ttccctaaga agatgttact ttgttgggtt ttgttccccc tccatctcga ttctgtacc	60
caactaaaaa aaaaaataa agaaaaaatg tcttgcgttc tgaanaataa ctcccttagct	120
tggtctgatt gttttcagac cttaaaatat aaacttgttt caaagcttt aatccatgtg	180
gatttttttt cttagagAAC caaacaacat aaaaggagca agtcggactg aatacctgtt	240
tccatagtgc cccaggggtc ttcctcacat ttctccata ggaatatgct tcttccaaq	300
g	301

<210> 254

<211> 301

<212> DNA

<213> Homo sapien

<400> 254

cgctgcgctt ttccttggg gggggggcaa ggcagaggg ggtccaagtg cagcacgagg	60
aacttgacca attccttga agcgggtggg ttaaaccttg tnaatggga caaatcccc	120
craaatctct tcatctacc ctggtggact cctgactgtg gaattttttg gttgaaacaa	180
gaaaaaaata agcttttggc ctcttcaagg ttgcttaaca ggtactgaa gactggcctc	240
acttaaatcg agccaggaaa agctgcagat ctattaatgg gctgttagt gtgcagtggc	300
c	301

<210> 255

<211> 302

<212> DNA

<213> Homo sapien

<400> 255

agctttttct ttttttttt ttttttttt ttcattaaaa aatagtgttc ttattataa	60
attactgaaa tgttttttt ctgaatataa atataaatct gtgcaaggtt tgacttggat	120
tgggattttg ttgagttctt caagcatctc ctataccct caaggggctg agtagggggg	180
aggaaaaagg actggaggctg gaatcttcat aaaaaaacag agtgattgag gcagatttga	240
aacattatta aaaaaacaga aacaaacaaa aaatatagga aaaaaccac cccaaCacac	300
aa	302

<210> 256

<211> 301

<212> DNA

<213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 256
 gtccagaaa acattgaagg tggcttccca aagtcctaact agggatarcc cctctagcct 60
 aggaacctcc tccccaracc tcaatccacc aaacctatca taatgcaccc agataggccc 120
 accccaaaaa gacctggacac cttgagcaca cagttatgac caggacagac tcatctctat 180
 aggcataatag ctgctggcaa actggcatca cctggcttct ggggatgggg gggcaagtgc 240
 gtggcctctc ggcctggcta gcaagaacat ttagggtagg cctaagttaa tctgtttagt 300
 c 301

<210> 257
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 257
 gttgtggagg aactctggct tgcctattaa gtctactga ttttcactat cccctgaatt 60
 tccccactta ttttgtctt tcaatctgc aggccttaga agaggtctac ctgcctccag 120
 tcttacctag tccagtctac cccctggagt tagaatggc atcctgaagt gaaaagtaat 180
 gtccacattac tcccttcagt gatttcttgc agnagtgcga atcctgaat gccaccaaga 240
 tcttaattct cactcttcta atcttatctc ttgactcct ctltacaccg gagaaggctc 300
 c 301

<210> 258
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 258
 cagcagtagt agatgccgta tgcacgracg cccagcactc ccaggatcag caccagcacc 60
 agggggcccag ccaacaggcg cagaagcaag ataaaacagta ggctcaagac cagagccacc 120
 cccagggcaa caagaatcca ataccaggac tgggcaaat cttcaaagat cttaacactg 180
 atgtctcggg cattgaggct gtcaataana cgtcgatccc ctgctgtatg gtggtgtcat 240
 tgggtgatccc tgggagcgcc ggtggagtaa cgttggctca tggaaagcag cggcccaaac 300
 c 301

<210> 259
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 259

```

tcatatatgc aaacaaatgc agactangcc tcaggcagag actaaaggac atctcttggg    60
gtgtcctgaa gtgatttggg cccctgaggg cagacacctg agtaggaatc ccagtgggaa    120
gcaaaagccat aaggaagccc aggatccctt gtgatcagga agtggggccag gaaggtctgt    180
tccagctcac atctcatctg catgcagcac ggaccggatg cgcacctggg gtcttggctt    240
ccctcccato ttctcaagca gtgtccttgt tgagccattt gcataccttg gtccagggtgg    300
c                                          301

```

```

<210> 260
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 260
ttttttttct cctaaggaa aaaggaaggaa caagtctcat aaacccaat aagcaatggc    60
aagggtgtctt aacttgaaa agattaggag tcantgggtt acaagttata attgaatga    120
agaactgtaa cagccacagt tggccatttc atgcraatgg cagcaaacaa caggattaac    180
tagggcaaaa taaataagtg tgtggaagcc ctgataagtg cttaataaac agactgattc    240
actgagacat cagtacctgc ccgggaggcc gctcgagccg aattctgcag atatccatca    300
c                                          301

```

```

<210> 261
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 261
aaatattcga gcaaatcctg taactaatgt gtctccataa aaggcttctg actcagtga    60
tctgcttcca tccacgattc tagcaatgac ctctoggaca tccaaagctcc tcttaaggct    120
agraccaact attccataca attcatcagc aggaatataa ggctcttcag aagggtccat    180
ggtgacatcc aatttcttct gataatttag attcctcaca accttctctg ttaagtgaag    240
ggcatgatga tcatccaagg cccagtgggc atttactcca gactttctgc aatgaagatc    300
a                                          301

```

```

<210> 262
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 262
gaggagagcc tgttacagca ttgttaagca cagaatactc caggagtatt tgttaattgtc    60
tgtgagcttc ttgcccgaag tctctcagaa atttataaag atgcaaatcc ctgagtccac    120
cctagacttc ctaaacacga tctctcgggg ctggaaacct gcaactctga ttgtaatga    180
gggtcttctg gtgcacacct aattttgtgc atctttgccc taaatcctgg attagtcccc    240
catcattacc ccacattat aatgggatat attcagagca gatactctcc agcaaaagat    300
c                                          301

```

```

<210> 263
<211> 301
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1) ... (301)
<223> n = A,T,C or G

```

<400> 263

tttagcttgt ggtaaatgac tacaacaact gatcttcaaa tcaagttaat gtgaattttg	60
aaattacta cttaactcta attcacaata acaatggcat taagggttga cttagagttgg	120
ttcttagtat tttttatggc aaataggtct ttaccacttg caataaacty gccacatcat	180
taatgactga ctcccaagta aggtctctta aggggtaaqt angaggatcc aagggatttg	240
agatgctaaq gcccagaga tcttctgac caacctctt atttcagag gggaaatgg	300
g	301

<210> 264

<211> 301

<212> DNA

<213> Homo sapien

<400> 264

aaagacgtta aaccactcta ctaccacttg tggaaactct aagggytaaa tgacaabccc	60
aatgaatgac tctaaadaca atcttncat ttaatgggtt gtagacata aaaaacaaq	120
gtggatagat ctagaattgt aacatttcaa gaaaacata acattgaca gatggaaag	180
ctcaattata gatgcacagt tataactaaa ctactatagt agtaaggaaa tacatttcac	240
accttcata caaattcaat atcttggctt gaggcactcc acdaatgta tcacgtgcat	300
a	301

<210> 265

<211> 301

<212> DNA

<213> Homo sapien

<400> 265

tgcacaagt atgtgtagt gtatccgac ccagaggtaa auctacacty tcatcttctg	60
ctcttctga cgcagtatt ctctctggg gagaagccg gaagtctct cctggctcta	120
catattcttg gaagtctta atcaacttt gtccatttg ttcatctt tcaggagggg	180
tttcagttt gtcaacatgt tctctaaaca cacttgcca ttctgtaaa gaatccaaq	240
cagtcacagg ctttgacatg tcaacaacca gcataactag agtatcttc agagatacgg	300
c	301

<210> 266

<211> 301

<212> DNA

<213> Homo sapien

<400> 266

taccgtctgc ctttctccc atccaggcca tctgogaatc tatatgggtc ctctatttcg	60
acaccagatc actctttct ctaccacag gcttgctatg agcaagagac acaacctct	120
ctcttctgtg tccagcttc ttttctgtt ctcccaacc cttaayttct attctgggg	180
atagagacac caataccat aacctcttc ctaagctcc ctataacca ggggtgcacag	240
cacagactcc tgacaactgg taaggccaat gaactgggag ctcacagctg gctgtgctg	300
a	301

<210> 267

<211> 301

<212> DNA

<213> Homo sapien

<400> 267

aaagagcaca ggtcagctca gcccgccctg gccatctaga ctacgcttg ctccatgggg	60
--	----

```

gttttcagtg ctgagtcacat ccaggaaag ctcacctaga ccttctgagg ctgaatcttc 120
atcctcacag gcagcttctg agagctgat attcctagcc ttgatgggtct ggagtaaaagc 180
ctcattctga ttctctcctt tcttttctt caagttggtt tctctcacat cctctgtctt 240
aatcgtctt agcttgctg ctttagccct cattccaga agcttcttct cttcggcatc 300
t 301

```

```

<210> 268
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 268
aatgtctcac tcaactactt ccagcctac cgtggcctaa ttctgggagt tttcttctta 60
gatcttggga gagctgggtt ttctdaggag aaggaggaaag gacagatgta actttggatc 120
tcgaagaggga agtctaattg aagtaattag tcaacgggtc ttgttttagac tcttggataa 180
tgctgggtgg cttagtgagc ccttttggag aaagcaagta ttattcttaa gtagtaacca 240
cttcccattg ttctacttct taccatcatc aattgtatat catgtattct ctggagaact 300
a 301

```

```

<210> 269
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 269
taacaatata cactagctat ctttcttaact gtccatcatt agcaccaatg aagattcaat 60
aaaattacct ttattccacac atctcaaaac aattctgcaa attcttagtg aagtttcaact 120
atagtcacag accttaaaata ttcaacttgt ttctatgtc tactgaaaat aagttcacta 180
ctttcttgga tattctttac aaaaacttat taaaattcct ggtattatca cccccaatta 240
tacagtagca caaccacctt atgtagcttt taccatgatag ctctgtagaa gtttcacatc 300
t 301

```

```

<210> 270
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 270
cattgaagag cttttgcgaa acatcagaac acaagtgctt ataaaaattaa ttaaggcctta 60
cacaagaata catattcttt ttatttctaa ggagttaaac atagatgtag ctgatgtgga 120
gagcttgctg gtgcagtgc tattggataa cactattcat ggcggaattg atcaagtcac 180
ccaactcctt gaactggatc atcagaagaa ggggtgggca cgatatactg cactagataa 240
tggaccraacc aactaaattc tctcccagg ctgcacagt aaactggctt aacagaaaac 300
a 301

```

```

<210> 271
<211> 301
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(301)
<223> n = A,T,C or G

```


<400> 271

```

aaaaggctct cataagatca acnatttcaa taaatatttg ataggacatt cttcttcatt    60
tttatagctc atctttaggg ttgatattca gttcatgctt cctttgctgt tcttgatcca    120
gaattgcaac cacttcacac gacctgtattc gctccaattc tctataaagt ggggtccaagg    180
tgaaccacag agccacagca cacctctttr ccttggtgac tgccttcacg ccatgagggt    240
tctctctctc agatganaac tgatcatgag ccacattctt ggggtttata gaagragtca    300
c

```

<210> 272

<211> 301

<212> DNA

<213> Homo sapien

<400> 272

```

tzaattgcta agccacagat aacaccaatc aaatggaaca aatcactgtc ttcaaatgtc    60
ttatcagaa accaaatgag cctgggaatc tcataatacc taaacatgac gtatttagga    120
tccaataatt cctcatgat gagcaagaaa aattctttgc gaacccctac tgcateraca    180
gcctcttctc caacaaatat aaccttgagt ggcttcttct aatctatgtt ctttcttctc    240
ctaaggactt ccatgcatc tctacaaata tttctctac gcaccactag aattaaagcag    300
g

```

<210> 273

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (301)

<223> n = A,T,C or G

<400> 273

```

acatgtgtgt atgtgtatct ttgggnaaan aanaagacat cttgtttayt attttcttgg    60
agagangctg ggacatggat aatcacwtaa ttctgtayta tyactttaat ctgactygaa    120
gaaccgtcta auaataaaat ttaccatgtc dtatattcct tatagtatgc ttatttcacc    180
tcttctctgt ccagagagag tatcagtgac ananatttma gggctgaamac atymattggg    240
gggacttnty ttacngagm accctgcccg agcgccctcg malcngantt ccgcanaac    300
t

```

<210> 274

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (301)

<223> n = A,T,C or G

<400> 274

```

cttatatact ctttctcaga ggcaaaagag gagatgggtg atgtagacaa ttctttgagg    60
aacagtaaat gattattaga gagaangaat ggaccaagga gacagaaatt aacttgtaaa    120
tgattctctc tggatctga atgagatcaa gaggccagct ttagcttctg gaaaagttcca    180
tctaggtatg gttgcattct cgtcttcttt tctgcagtag ataattgagg aaaccgaaggc    240
aattgtgctt ctcttgataa gaagctttct tggatcatatc aggaatttcc aganaaagtc    300

```

C

301

<210> 275
<211> 301
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> {1}...{301}
<223> n = A,T,C or G

<400> 275

tcgggtgtcag cagcacgtgg cattgaacat tgcattgtgg agcccaaac ccagaaaatg	60
gggtgaaatt ggccaacttt ctatcaactt atgttggcua ttttgccacc aacagtaagc	120
tggcccttct aataaaagaa aattgaaag tttctcacta aacgggatta agtagtggag	180
tcaagagact cccagycctc agcgtatctg cccggggcgc cgctcgaagc cgaattctgc	240
agatcatccat cacactggcg gncgctcgan catgcactta gaaggnccaa ttcgacctat	300

a

<210> 276
<211> 301
<212> DNA
<213> Homo sapien

<400> 276

tgtatcacata ctcaatcaat aatgacatgc attgttgtat tattactata ctgattacat	60
ttatcatgtg atttctaatt agaaatgtta tccaaagca aaacagcaga catacaaat	120
taaagagaca gaagatagac actaacagat aaggcaactt atacattgag aatcraaatc	180
caatacatctt aacattttgg gaaatgaggg ggacaaatgg aagccagatc aaatttgtgt	240
aaaactatc agtaagtttc ccttgcttca tgtctgagaa ggctctcctt caatggggat	300

g

<210> 277
<211> 301
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> {1}...{301}
<223> n = A,T,C or G

<400> 277

tttgttgatg tcagtatctt attacttgcg ttatgagtcg tcacctggga aattctaaag	60
atacagagga ctggaggga gcagagcaac tgaatttaast tcaaaaggaag gaaacattg	120
gaatcatggc actcttgata ctttccnaa tcaacactct caatgcccc cctctgctt	180
caccatagtg gggagactaa agtggccacg gatttgctt angtgtgcag tgcgttctga	240
gttcnctgtc gattacatct gaccagtctc ctttttccga agtccntccg tccaatcttg	300

c

<210> 278
<211> 301
<212> DNA
<213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 278

taccactaca	ctccagcctg	ggcaacagag	caagacctgt	ctcaaaagcat	aaaatgggaat	60
aacatatacaa	atgaaacagg	gaaaatgaag	ctgacanttt	atggaagcca	gggcttgtca	120
cagtctctac	tgttattatg	cattacctgg	gaatttatat	aagccrttaa	taataatgcc	180
aatgaacato	tcattgtgtc	tcacaatgtt	ctggcactat	tataagtgtc	tcacagggtt	240
tatgtgttct	tcgttaacttt	atggantagg	tartcgyccg	cgaacargct	aagccgaatt	300
c						301

<210> 279
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 279

aaagcaggaa	tgacaaagct	tgcttttctg	gtatgttcta	gggtgtattgt	gacttttact	60
gttatattaa	ttgccaatat	aagtaaacat	agattatata	tgtatagtgt	ttcacaagc	120
ttagaccttt	accttcagc	cacccacag	tgcttgatct	ttcagagtca	gtcattgggt	180
atcacatgtgt	agttccaaag	cacataagct	agaanaanaa	atatttctag	ggagcactac	240
catctgtttt	cacatgaat	gccacacaca	tagaactcca	acatcaattt	cattgcacag	300
a						301

<210> 280
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 280

ggtaactggag	ttttctctcc	ctgtgaaaac	gttaactactg	ttgggagcga	attgaggatg	60
tagaaagggtg	gtggaaccaa	attgtggtea	atggaatatag	gagaatatgg	ttctcactct	120
tgagaaaaaa	acctaaagatt	agcccaggta	gttgacctgta	acttcagttt	ttctgcctgg	180
gtttgatata	gtcttaggggt	ggggttagat	taagatctaa	attacatcag	gacaaagaga	240
cagactatta	actccacagc	taattaaagg	ggatatgtcc	atgtttattt	gttaaagcag	300
t						301

<210> 281
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 281

aggtacaaga	aggggaatgg	gaaagagctg	ctgctgtggc	attgttcaac	ttggatatcc	60
gccgagcaat	ccaaatccctg	aatgaagggg	catcttctga	aaaaggagat	ctgaatctca	120
atgtggtagc	aatggcttta	tcgggttata	cggatgagaa	gaactccctt	tgagagagaa	180
tgtgtagcad	actgcgatta	cagctaaata	acccgtattt	gtgtgtcatg	tttgcatttc	240

tgacagtgga aacaggatct tacgacggag ttttgtatga aaacaaagtt gcagtacctc 300
g 301

<210> 282
<211> 301
<212> DNA
<213> Homo sapien

<400> 282
caggtaactac agaatataaa tactgacaa gaaagtagttt ttggcggtgc acgaattgca 60
tcragaaccc aaaaatttaag aaattcmeta agacattttg tgggcacclg ctagcacaga 120
agcgcaqaa gaaagcccaag gcagaacctat gctaaccctta cagctcagcc tgcacagaag 180
cgcaagaagca aagcccaaggc agaacctatg taaccttaca gctcagcctg cacagaagcg 240
cagaagcaca gccacggcag aacatgctaa ccttacagct cagcctgac agaaagcag 300
a 301

<210> 283
<211> 301
<212> DNA
<213> Homo sapien

<400> 283
atctgtatc ggcagacaaa ctttatarag tgtgagagag tgagcgaaag gatgcaaaag 60
caatttgagg gctttataat aatctgctgc ttgaaaaaaa aaatgtgtag ttgatctca 120
gtgcattcgc agacatagta aggggttgc ctgaccaatc aggtgatcat tttttctatc 180
acttcccaag ttttatgcaa aaatttctgt aaattctata atggtgatct gcattcttta 240
ggaaacatat acattttcaa aaattctatt tatgtgaaga ctgacagacg aatttgcctt 300
g 301

<210> 284
<211> 301
<212> DNA
<213> Homo sapien

<400> 284
caggtaaaa acgctattaa gtggcctaga atttgaacat ttgtggcttt tatctacttt 60
gcttctgtgt tggycaaaag aacatcttcc ctaaatatat attaccaaga aaagcaagaa 120
gcagatttag ttttgcaca acaaaacagg ccaaaagggg gctgacctgg agcagagcat 180
ggtgagaggc aagggcatgag agggcaagtt tgttctggac agatctgtgc ctactttatc 240
actggggtaa aagaaaacaa agttcattga tgtcgaagga tatatacagt gttagaaatt 300
a 301

<210> 285
<211> 301
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> 11... (301)
<223> n = A,T,C or G

<400> 285
acatcaccat gatcggatcc cccacccatt atacgttgha tgtttacata aatattcttc 60
aatgacatc agtgttttaa aaaaaatacc gaaaactcct tctgcaccc aatctctaac 120

```

caggaaagca aatgctattt acagacotgc aagccctccc tcaaacnana ctatttctgg 180
attaactatg tctgacttct tttagaggtca cactgactagg caantgctat ttacgatctg 240
caaaagctgt ttgaagagtc aagccccc cgtgaaacag atttctggac cctgtaacag 300
t 301

```

```

<210> 286
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 286
taccactgca ttccagcctg ggtgacagag tgagactccg tctccaaaa aaactttgct 60
tgtatattat ttttgcccta cagtggatca ttctagtagg aaaggacagt aagatttttt 120
atcaaaatgt gtcattgccag taagagatgt tatattcttt tctcatctct tcccaccca 180
aaaataagct accatatagc ttataagttc caaatttttg ccttttacta aaatgtgatt 240
gtttctgttc attgtgtatg ctctatcacc tatattgggc aaattccatt ttttcccttg 300
t 301

```

```

<210> 287
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 287
tacagatctg ggaactaaat attaaaaatg agtgtggctg gatataatga gaactgttggg 60
cccagaagga acgtagagat cagatattac aacagcttly ttttgagggl tagaaatatg 120
aaatgatttg gttatgaacg cactgcttag gcagcagggc cagaatcttg accctctgcr 180
ccgtgggtat ctctcccca gcttggctgc ctcatgttat cacagtattc catttctgtt 240
gttgcattgc ttgtgaagcc atcaagattt tctcgtctgt ctctctctca ttggbaatgc 300
t 301

```

```

<210> 288
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 288
gtacacctea ctgcaaggac agctgaggaa tgtactgggc agccgctttt aaagaagtag 60
agtcaatagg aagacaaatt ccagttccag ctcaagtctgg gtatctgcaa agctgcaaaa 120
gatctttaaa gacaatttca agagatattt tctttaaagt tggcaatttg gagatcatac 180
aaaagcatct gcttttctga ttttaattag ctcatctggc cactggaaga atccaaacag 240
tctgacctaa ttttggaatga atgcattgat gaaattcaat aatttagana gtaaaaaa 300
a 301

```

```

<210> 289
<211> 301
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1) ... (301)
<223> n - A,T,C or G

```

```

<400> 289

```

```

ggtagactgt ttccatggtt tggttctaca cattgctacc ttagtgctcc tggaaactta      60
gtttttgatg tctccaaata gtcacacctc atttaactct ttgaaactgt atcatctttg      120
craagtaaga gtggtggcct atttcagctg ctttgacaaa atgactggct cctgacttaa      180
cgttctataa atgaatgtgc tgaagcaaa ggcgcctggg ggcggcgaan aagagaaaga      240
tgbgttttgt ttggactct ctgtggtccc ttccaatgct gtgggtttcc aaccagngga      300
a                                          301

```

```

<210> 290
<211> 301
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> {1}...{301}
<223> n = A,T,C or G

```

```

<400> 290
acactgagct cttcttgata aatataraga atgcttggca tatacaagat tctatactac      60
tgactgatcc gtccatttct ctccacagtc ttaccccaa aagcttttcc accataagtg      120
ttctgacctc cttttctaat cacagtaggg atagaggcag anccacctac aatgaacatg      180
gagttctatc aagaggcaga aacagcacag atccccagtc ttaccattcg ctagractgc      240
tgccttgaac aaaaacattt ctccatgtct cabttctctc atgcttcaag taacagttag      300
a                                          301

```

```

<210> 291
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 291
caggtaccac ttcttctat cctagaaacn tttratttca tgttggtgaa acataacaac      60
tatatcagct agatttttct tctatgcttt acctgctatg gaaaatttga cacactctgc      120
tttactcttt tgtttatagg tgaatcacaa aatgtatttc tatgtattct gtagttcaat      180
agccatggct gtttacttca ttttaatttat tttagctaaa gacattatga aaaggcctaa      240
acatgagctc cacttcccaa ctacctaatt agcatctgtc attttttaac cgtaatgcct      300
a                                          301

```

```

<210> 292
<211> 301
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> {1}...{301}
<223> n = A,T,C or G

```

```

<400> 292
accttttagt agtaatgtct aataataaat aagaaatcaa ttttataagg tccatatagc      60
tgtattaaat aactttcaag tttaaaagat aaatatccat catttcaaat gtgggtatcc      120
aaaaccaaa g natataaccg aaaggaaaaa cagatgagac ataaaatgat ttgcnagatg      180
ggaaatatag tacttyatga atgttnatta aattccagtt ataatagtgg ctacacactc      240
tcactacaca cacagacccc acagtccctat atgccacaaa cacatttcca taacttgaaa      300
a                                          301

```

<210> 293
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 293
 ggtaccaagt gctggtgcca gccctgttacc tgttctcact gaaaagtctg gctaattgctc 60
 ttgtgtagtc acttctgatt ctgacaarca atcaatcaat ggcctagagc actgactgtt 120
 aacacaaacg cactagcaa agtagcaaca gctttaagtc taattacaa gctgttctgt 180
 gtgagaattt tttaaaaggc tacttgtata ataacccttg tcatttttaa tgcacrtcgg 240
 ccgcgaccac gctaagccga attctgcaga tatccatcac actggcgccc gctcgaagcat 300
 g 301

<210> 294
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (301)
 <223> n = A, T, C or G

<400> 294
 tgaccatata caatatatac tagctatctt cttaactgtc catcattagc accaatgaag 60
 attcaatata attaccttta ttcaacacac tcaaaacant tctgcaaat cttagtgaag 120
 tttactata gtacaganc ttcaattatt acattgttt ctatgtctac tgaataaag 180
 ttcactactt ttctgggata ttctttacaa aatcttatta aaatccctgg tattatcacc 240
 ccaattata cagtagcaca accaccttat gtagtcttta catgatagct ctgtagaggt 300
 t 301

<210> 295
 <211> 305
 <212> DNA
 <213> Homo sapien

<400> 295
 gtactctttc tctcccttcc tctgaattta attctttcaa ctgcaattt gcaaggatta 60
 cacatttcac tgtgtgtat attgtgtgc aaaaaaaa gtgtctttgt ttaaaattac 120
 ttggtttgtg aatccatctt gctttttccc cattggaaat agtcattaac ccattctctga 180
 actggttagaa aaacrtctga agagctagtc tatcagcacc tgacaggtga attggatggg 240
 tctcaggaacc atttcaccca gacagcctgt tctatcctg ttaataaat tagtttgggt 300
 tctct 305

<210> 296
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 296
 aggtactatg ggaagctgct aadataatat ttgatagtaa nagtatgtaa tgtgctatct 60
 cacttagtag taaactaaaa ataaactgaa actctatgga acctgaaagt attttccttg 120
 attaaataga attaataaac caatatgagg aaacatgaaa ccattgcaat cactatcaac 180
 ttgaaaaag tgattgaacg aaccaccttag ctttcagatg atgaacactg ataagtcatt 240

101

tgtaattact ataaatttta aaactctgta ataagatggc ctacagggag gaaaaagggg 300
c 302

<210> 297
<211> 300
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(300)
<223> n = A,T,C or G

<400> 297
actgagtttt aactggacgc caagcaggca aggcctggaag gtlttgctct cttctgtgcta 60
aagggttttga aaaccttgaa ggagaatcat ttgacaaga agtacttaag agctatagaga 120
acaaagangt gaaccagctg aaagctctcg ggggaanctt acatgtgttg ttaggcctgt 180
tccatcatgg gagtgcact ggcacacctt caaaatttgt ctgggctggc ctgagtggtc 240
accgcacctc ggccgcgacc acgctaagcc gaattctgca gatatccatc acactggcgg 300

<210> 298
<211> 301
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(301)
<223> n = A,T,C or G

<400> 298
tatggggttt gtcacccaaa agctgatgct gagaagaaggcc tccctggggc cctctccggc 60
ggcatctgag agacctggty ttccagtgct tctggaaatg ggtccuagtg ccgcccggctg 120
tgaagctctc agatcaatca cgggaagggc ctggcgggtgg tggccacctg gaaccacctt 180
gtcctgtctg ttacacattc actaycaggt ctctcttgg cattacnati tgttcccta 240
caacagtgac ctgtgcattc tgetgtggcc tgetgtgtct gcagggtggt ctacgcgagg 300
t 301

<210> 299
<211> 301
<212> DNA
<213> Homo sapien

<400> 299
gttttgagac ggagtttcac tcttggtgac cagactggac tgcattggca gggctctctgc 60
tcactgcacc ctctgcctcc cagggttcag caattctcct gctcagcct cccaggtagc 120
tgggattgca ggctcacgcc accataccca gctaatcttt ttgtattttt agtagagacg 180
gagtttcgcc atgtcggcca gctgggtctca aartcctgac ctcaagcgac ctgcttgctt 240
cggctccca aagtgtcggg attataggca tgagtcaaca cgtccagcct aaagatatct 300
c 301

<210> 300
<211> 301
<212> DNA
<213> Homo sapien

<400> 300

attcagtttt	atttgcctgcc	ccagtatctg	taaccaggag	tgcacaaaa	tcttgcctaga	60
tatgtccac	acccactggg	aaaggctcc	acctggctac	tctctctatc	agctgggtca	120
gctgcattcc	acaaggttct	cagcctaattg	agtctcacta	cctgccagtc	tczaaactta	180
gtaaagcaag	accatgacat	tcccccacgg	aatcagagt	ttgcccaccc	gtcttggtac	240
tataaagcct	gctcttaaca	gtccttgctt	cttcacacca	atcccgagcg	catcccccat	300

g

301

<210> 301

<211> 301

<212> DNA

<213> Homo sapien

<400> 301

ttaaattttt	gagaggataa	aaaggacaaa	taattctagaa	atgtgtrttc	ttcagtcctgc	60
agaggacccc	aggtctccan	gcaaccacat	ggtcaaggyc	atgaataatt	aaaagttggt	120
gggaactcac	aaagaccctc	agagctgaga	caccacaaac	agtgggagct	cacaaagacc	180
ctcagagctg	agacacccc	aacagcggga	gttcacaaag	arccctcagag	ctgagacacc	240
cacaacagca	cctcgttcag	ctgcccacatg	tgtgaataag	gatgcaatgt	ccagaaagtgt	300

t

301

<210> 302

<211> 301

<212> DNA

<213> Homo sapien

<400> 302

aggtacacat	ttagcttctg	gtaaatgact	cacnaaaactg	attttaaaat	caagttaatg	60
tgaattttga	aaattactac	ttaattctaa	ttcacantaa	caatggcatt	aaggcttgac	120
ttgagttggg	tcttagctat	atttatggta	aataggctct	taccacttgc	aaataactgg	180
ccacatcatt	aatgactgac	ttcccagtaa	ggctctctaa	ggggtaagta	ggaggtacca	240
caggatctga	gatgctaagg	ccccagagat	ogtttgatcc	aacctcttta	ttttcagagg	300

g

301

<210> 303

<211> 301

<212> DNA

<213> Homo sapien

<400> 303

aggtaccaa	tgtaggaata	ggtagaggat	cattttttct	ttccatata	actaagttgt	60
atattgttct	tcgacagttt	aacacatctt	cttctgtcag	agattctttc	acaatagcac	120
tggctaattg	aactacrgct	tgcattgtta	aaatgggtgg	ttgtgaaatg	atcataggcc	180
agtaacgggt	atgtttttct	aactgatctt	ttgctcgttc	caaagggacc	tcaagacttc	240
catcgatttt	atatctgggg	tctagaaaag	gagttaatct	gttttccctc	ataaattcac	300

c

301

<210> 304

<211> 301

<212> DNA

<213> Homo sapien

<400> 304

acatggatgt	tatttttgag	actgtcaacc	tgaatttgta	tttgcctgac	attgcctaatt	60
------------	------------	------------	------------	------------	-------------	----

```

tattagcttc agtttcagct taccracctt ttgtctgcaa catgcaraas agacagtgc 120
ctttttagtg tatcatatca ggaatcater caoatttggt tgtgccatta ctggtgcagt 180
gactttcagc cacttgggtg aggtggagtc ggrcatatgt ctccactgca suattactga 240
ttttcccttt gtaattaata agtgtgtgtg tgaagattct ttgagatgag gtatatatct 300
c 301

```

```

<210> 305
<211> 301
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> [1]...[301]
<223> n = A,T,C or G

```

```

<400> 305
gangtacagc gtgggtcaagg taacaagaag aaaaaaatgt gagtggcctc ctgggatgag 60
cagggggaca gacgtggaca gacacgttgt catttgctgc tgtgggtagg aaaaaggggc 120
taaaggaggg gaacagata caaatctccc aactcagtat taaggtattc tcatgcttag 180
aatattggtg gaacaaaga tacattcata tggcaaatga ctaccratgg tggaaacaaa 240
ttctgggatt taagttggat accaangaaa ttgtattaaa agagctgttc atggataaag 300
a 301

```

```

<210> 306
<211> 8
<212> PRT
<213> Homo sapien

```

```

<400> 306
Val Leu Gly Trp Val Ala Glu Leu
1 5

```

```

<210> 307
<211> 637
<212> DNA
<213> Homo sapien

```

```

<400> 307
acaggggatg aagggaaaag gagaggatga ggaagccccc ctggggattt ggcttgggtcc 60
ttgtgatcag gtggtctatg gggotttatcc ctacaaagaa gaatccagaa atagggggcac 120
attgaggaat gatattgag cccaaagagc attcaatcat tgttttattt gccttmtttt 180
cacaccattg gtgagggagg gattaccacc ctggggttat gaagatggtt gaacaccccc 240
cacatgcac cggagatatg agatcaacag ttotttagcc atagagattc acagcccaga 300
gcaggaggac gcttgccacac catgcaggat gacatggggg atgcgctcgg gattgggtgtg 360
aagaagcaag gactgttaga ggcaggcttt atagtaacaa gacgggtggg caaactctga 420
tttccgtggg ggaatgtcat ggtcttgctt tactaagttt tgagactggc aggtagtga 480
actcattagg ctgagaacct tgtggaatgc acttgaccca scgatagag gaagtagcca 540
gggtgggagcc ttccccgtg ggtgtgggac atatctggca agattttgtg gcactcctgg 600
ttacagatar tggggcagca aataaaactg aactcttg 637

```

```

<210> 308
<211> 647
<212> DNA
<213> Homo sapien

```

<220>
 <221> Misc_feature
 <222> {1}...{647}
 <223> n = A,T,C or G

<400> 308

acgattttca	ttatcctgta	aatcgggtca	ctcaaggggc	caaccacagc	tgggagccac	60
tgtcagggg	aaggttcata	tgggactttc	tactgcccaa	ggttctatac	aggatataaa	120
ggngcctcac	agtatagatc	tggtagcaaa	gaagaagaaa	caaacactga	tctctttctg	180
ccacccctct	gaccccttgg	aactcctctg	accctttaga	acaaagcctac	ctaataatctg	240
ctagagaaaa	gaccaaacaac	ggcctcaaa	gatctcttac	catgaagggtc	tcaactaatt	300
cttggtcaag	atgtgggttc	cacattaggt	tctgaaatag	gggggaagggt	tcaatttgc	360
catttttgt	gtggataaag	tcaggatgac	cagggggcag	agcagggggc	tgccttgcctt	420
gggaacaact	gctgagcata	taaccatagg	ctatggggag	caaaacaaca	tcaaatgcac	480
tgtatcaatt	gncatyaaga	cttgaggggc	ctgaatctac	cgattcatct	taaggcagca	540
ggacragtt	gagtggcaac	aatgcragag	cagaatcaat	ggaaacaaca	gaatgattgc	600
aatgtcctt	ttttctctct	gcttctgaat	tgaataaagg	ggacccgt		647

<210> 309
 <211> 460
 <212> DNA
 <213> Homo sapien

<400> 309

actttatagt	ttaggctgga	cattggaaaa	aaaaaaagc	cagaacacaa	tgtgatagat	60
aatatgatcg	gctgcacant	tcuagactga	tgaatgatga	acgtgatgga	ctattgtatg	120
gggcacatct	tcagcaagag	ggggaaatac	tcattatctt	tggccagcag	ttgtttgatc	180
accaaacatc	atgccagaat	actcagcaaa	ccttctctagc	tcttgagaag	tcaaatgccg	240
gggggaattta	ttcctggcaa	ttttaatttg	actccttatg	tgagagcagc	ggctaccrag	300
ctgggggtgg	ggagcgaacc	cgtcactagt	ggacatgcag	tggcagagct	cctggttaacc	360
acctagaggga	atacaagagg	acatgtgtga	tgccaaagct	gacacctgta	gcaclcaaat	420
ctgtcttgct	tttgtctttc	ggtgtgtaag	attcttaagt			460

<210> 310
 <211> 539
 <212> DNA
 <213> Homo sapien

<400> 310

acgggactta	tcaaatagag	ataggaaang	aagaaaactc	aaatattata	ggcagaaatg	60
ctaaagggtt	taaaatatgt	caggattgga	agaaggcatg	gatanagaac	aaagtctcag	120
taggaaagag	aaacacagaa	ggaagagaca	caataaaagt	cattatgtat	tctgtgagaa	180
gtcagacagt	aagatttctg	ggaaatgggt	tggtttctg	tatggctatg	attttagcaa	240
taatctttat	ggcagagaaa	gctaaaaatc	tttagcttgc	gtgaatgatc	acttgcctgaa	300
ttcctcaagg	taggcattgat	gaaggagggt	ttagaggaga	caragacaca	atgaactgac	360
ctagatagaa	agccttagta	tactcagcta	ggaatagtga	ttctgagggc	acactgtgar	420
atgattatgt	cattacatgt	atggtagtga	tggggatgat	aggaagggaag	aacttatggc	480
atatctttcac	ccccacaaaa	gtcagttaaa	tattgggaca	ctaaccatcc	aggtcaaga	539

<210> 311
 <211> 526
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(526)
 <223> n = A,T,C or G

<400> 311

caaatttggag ccaatggacat agaattttac aaatcaagaa gcttattctg gggccatttc	60
ttttgacgtt ttctctaaac tactaaagag gcaatattga tccataaatt atattatcta	120
catttacagc atttaaaatg tgttcagcat gaaatattag ctacagggga agctaaataa	180
attaaacatg gaataaagat ttgtccttaa atataatcta caagaagact tcgatatttg	240
tttttcacaa gtgaagcatt ctatataaagt gtccataacct ttttggggaa acatgggaa	300
aaaatggggg aactctgaag ggttttcaagt atcctacctg aagctacaga ctccataacc	360
tctcttaca gggagctcct ggcgcacctc cagaatgag tggctgagat tottgattgc	420
acagcaagag ctctctacct aaacaccttc cttttttagt atcctgtgat caagtataaa	480
agttctataa actgtagtnt acttatttta atccccaaag cacagt	526

<210> 312
 <211> 500
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(500)
 <223> n = A,T,C or G

<400> 312

ctctctctc cccacccctt gactctagag aactggggtt ttcccragta ctccagcaat	60
tcatttctga aagcagttga gccactttat tccaaagtac actgcagatg ctcaaaactct	120
ccatttctct ttcccttcca cctgccagtt ttgctgactc tcaacttctc atgagtgtaa	180
gcattaaagg catttatgct ctctcgattct gaagacagac cctgctcatg gatgactctg	240
gcttcttagg aaataatctt tcttccaaaa tcagttagga ctctaaactc atccctctt	300
tgcagatgtc tagcagcttc agacatttgg ttangaaccc atgggaaaaa aaaaaaatcct	360
tgtcaatgag gtttcttttg taaaccacga ttcttatttg nctggatag aatatcagct	420
ctgaacgtgt ggtaaaagatt tttgtgtttg antataggag aaatcagttt gctgaaaaat	480
tagtctaat tatctatcgg	500

<210> 313
 <211> 718
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(718)
 <223> n = A,T,C or G

<400> 313

ggagatttgt gtggttctga gccgagggag accaggaaga tctgcatggt gggaaaggacc	60
tgatgataca gagggtgagaa ataagaaagg ctgctgactc taccatctga ggccacacat	120
ctgctgaaat ggagataatt aacatcacta gaaacagcaa gatgacata taatgtctaa	180
gtagtgarat gtttctgcac atttccagcc cttttaataa tccacacaca caggaaagcac	240
aaaagggaag ccagagatcc ctggggagaa tgcctggcgg ccactctggg tcatcgatga	300
gcctcgccct gtgcctgntc ccgcttctga gggaaaggaa ttagaaaatg aattgatgtg	360
ttccctaaag gatggcagga aaacagatcc tgttctggat atttatttga acgggattac	420

agattttgaaa tgaagtcaca aagttagrat	taccaatgag	aggaaaacag	acgggaaaat	480
cttcatgggtt cacaagacat gcaacaaaca	aaatgggata	ctgtgatgac	acgagcagcc	540
aaatggggag gagataccac ggggcagagg	tcaggattct	ggccctgctg	ccfaactgtg	600
cgttatacca atcatttcta ttctaccct	caaacaagct	gtngaatatc	tgacttacgg	660
ttcttntggc ccaattttc atnatccacc	ccntcctttt	aamttatctc	caaatgt	718

<210> 314

<211> 358

<212> DNA

<213> Homo sapien

<400> 314

gtttatttac attacagaaa aaacatcagg	acaatgtata	ctatttcana	tatatccata	60
cataatcana tatagctgta gtacatgttt	tcattgggtg	agattaccac	aaatgcagg	120
caacatgtgt agatctcttg tcttattctt	ctgtctataa	tactgtattg	tgtagccaa	180
gctctcggtg gtccagccac tgtgaacac	gtcccttta	gattaacctc	gtggatgctc	240
ttgttgtatt gctgaactgt agtgcctgt	attttgcttc	tgtctgtgaa	ttctgttgc	300
tctggggcat ttccttgtga tgcagaggac	caccacacag	atgacagcaa	tctgaatt	358

<210> 315

<211> 341

<212> DNA

<213> Homo sapien

<400> 315

taccacctcc ccgtggcac tgatgagccg	catcaccatg	gtcaccagca	ccatgaaggc	60
atagggtgatg atgaggacat ggaatgggc	cccaaggatg	gtctgtccaa	agaaagcagc	120
gacccccatt ctgaagatgt ctggaacctc	taccagcagg	atgatgatag	ccccaatgac	180
agtcaccragc tccccgacca gccggataac	gtccttaggg	gtcatgtagg	cttcctgaag	240
tagcttctgc tgaagagggt tgttgtcccg	ggggctcgtg	cggctattgg	tcctgggctt	300
gaggggggcgg tagatgcagc acatggctga	gcagatgatg	t		341

<210> 316

<211> 151

<212> DNA

<213> Homo sapien

<400> 316

agactgggca agactcttac gccccacact	gcaatctggc	cttgctgcgc	tatccattta	60
tgtgggcttt tctcgagttt ctgattataa	acaucactgg	agcgatgtgt	tgactggact	120
cattcaggga gctctggttg caatatctag	t			151

<210> 317

<211> 151

<212> DNA

<213> Homo sapien

<400> 317

agaactagtg gatccaatg aaataacctga	aacatatatt	ggcaattatc	aatggctcaa	60
atcttcattt atctctggcc ttaaccctgg	ctcctgaggg	tgcggccagc	agatcccagg	120
ccagggtctt gttcttgcca caactgcttg	a			151

<210> 318

<211> 151

<212> DNA

<213> Homo sapi n

<400> 318

```
actggtggga ggcgctgttt agttggctgt ttccagaggg gtctttcggg gggacctctt    60
gttcagagct ggagtgcttc tattcctggc gggagaccgc acattccact gctgaggctg    120
tgggggcggg ttatcaggca gtgataaaca t                                     151
```

<210> 319

<211> 151

<212> DNA

<213> Homo sapien

<400> 319

```
aactagtggg tccagagcta taggtacagt gtgatctcag ctttgcgaac acattttcta    60
cctagatagt acctaggtatt aatagatatg taagagaaga aatcacacca ttaataatgg    120
taagattggg ttatgtgat tttagtgggt a                                     151
```

<210> 320

<211> 150

<212> DNA

<213> Homo sapien

<400> 320

```
aactagtggg tccactagtc cagtgtgggt gaattccatt gtgtcggggg tctagatcgc    60
gagcggctgc cctttttttt tttttttttg ggggggaatt tttttttttt aatagttatt    120
gagtgttcta cagcttacag taaataccat                                     150
```

<210> 321

<211> 151

<212> DNA

<213> Homo sapien

<400> 321

```
agcaactctt tttttcatcc aggtattttt aggccttagga tttctcttca cactgcagtt    60
taggggtggc ttgtaaccag ctatggcata ggtgttaacc aaaggctgag taacatggg    120
tgctctgag gaatcaagc ttcatacac t                                     151
```

<210> 322

<211> 151

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (151)

<223> n = A,T,C or G

<400> 322

```
atcagcctc ttctctgtt tcttgcttc ctctttcttc ttcttasatt ctgcttgagg    60
tttgggcttg gtcagtttg cacagggtc ggagatggcg acagtcttct ggcattcggc    120
attgtgcagg gtcgcttca nactteragt t                                     151
```

<210> 323

<211> 151

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(151)

<223> n = A,T,C or G

<400> 323

tgaggacttg	tkttcttttt	ctttattttt	aatcctctta	ckttgtaaat	atatttgcta	60
dagactrant	tactaccag	tttgtgggtt	twtgggagaa	atgtaactgg	acagtttagct	120
gttcaatyna	aaagacactt	ancccatgtg	g			151

<210> 324

<211> 461

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(461)

<223> n = A,T,C or G

<400> 324

acctgtgtgg	aatttcagct	ttcctcatgc	aanaggatrt	tgtatccccg	gcctacttga	60
agaagtggtc	agctaaggga	atccagggtg	ttggttggac	tgttaatacc	tttgatgaaa	120
ayggttacta	cydatcccat	cttggttcca	getatatcac	tgacagcatg	gtagaagact	180
gcgaacctca	cttctagavt	ttcacgggtg	gacgaacccg	gttcagaaac	tgccaggggc	240
ctcatcacag	gatataaaaa	taccccttlt	gttaccrcagg	ccctggggaa	tcagggtgact	300
cacacaaatg	caatagtctg	ccactgcatt	tttacctgaa	ccaaagctaa	acccgggttt	360
gcacccatgc	acatgtggcat	gccagagttc	aacactgttg	ctcttgaana	tcgggtctga	420
aaaacgcgac	aagagccctt	gcccctgccc	agctgangra	c		461

<210> 325

<211> 400

<212> DNA

<213> Homo sapien

<400> 325

acactgtttc	catgttatgt	ttctaracat	tgtacacctca	gtgcccctgg	aaacttagct	60
tttgatgtct	ccaagtatgc	caacttccat	taactctttg	aaactgtatc	atcttttgcca	120
agtaagagtg	gtggcctatt	tcagctgctt	tgacaaaatg	actggctcct	gacttaacgt	180
cttatataatg	aatgttctga	agcaaatgtc	cratggctgg	ggcgaagaag	agaaagatgt	240
gttttgtttt	ggactctctg	tggctccctt	caatgctgtg	ggtttccaac	cagggggaagg	300
gtcccttttg	cattgccaa	tgccataacc	atgagcacta	cgtaccatg	gttctgcctc	360
ctggccaaagc	aggctggttt	gcaagaatga	aatgaatgat			400

<210> 326

<211> 1215

<212> DNA

<213> Homo sapien

<400> 326

ggaggactgc	agccgcact	cgcagccctg	gcaggcggca	ctggtcatgg	aaaacgaatt	60
gttctgtctg	ggcgtcctgg	tgcataccga	gtgggtgtctg	tcagccgcac	actgtttcca	120
gaactcttac	accatcgggc	tgggccttga	cagctcttgag	gccgaccaa	agccaggag	180

ccaghtggtg	gaggccagcc	tctccgtacg	gcacccagag	tacaacagac	ccttgrtcgc	240
taacgacctc	atgctcatca	agttggacga	atccgtctcr	gagtcctgac	ccatccggag	300
catcagcatt	gcttcgcagt	gccctaccgc	ggggaaactct	tgcttcgltt	ctgectgggg	360
tctgctggcg	aacggcagaa	tgcttaccgt	gctgcagtgc	gtgaacgtgt	cgggtggtgtc	420
tgaggaggtc	tgacgttaagc	tctatgaccc	gctgtaccac	cccagcatgt	tctgcgccgg	480
cggagggcaa	gaccagaagg	actccctgca	cgggtgactct	ggggggccccc	tgatctgcaa	540
cgggtacttg	cagggcccttg	tgtctttcgg	aaaagccccc	tggtggccaa	ttggcgtgcc	600
aggtgtctac	acraacctct	gcaaattcac	tgagtggata	gagaaaccg	tccaggccag	660
ttaactctgg	ggactgggaa	cccctgaaat	tgacccccc	atacatcctg	cgggaaggaa	720
tcaggaaat	ctgttcccag	ccctccctcr	ctcaggccca	ggagtccagg	cccccagccc	780
ctcctcctc	aaaccaaagg	tacagatccc	cagccccctc	tccctcagar	ccaggagtcc	840
agacccccc	gccccctc	cctcagaacc	aggagtccag	ccctcctccc	ctcagaacca	900
ggagtccaga	ccccccagcc	cctcctccct	cagaccnagg	ggtccaggcc	cccaacccct	960
cctccctcag	actcagaggt	ccaagcccc	aacccctcct	tccccagacc	cagaggtcca	1020
ggtccagacc	cctcctccct	cagacccagc	ggtccaatgc	cacctagact	ctcctglaac	1080
acagtgcccc	cctgtggcac	gttgacccaa	ccttaucagt	tggtttttca	ctttttgtcc	1140
ctttccctta	gatccagaaa	tcaagttctaa	gugaagcgca	aaaaaanaa	aaaaaanaa	1200
aaaaaanaa	aaaaa					1215

<210> 327
 <211> 220
 <212> PRT
 <213> Homo sapien

<400> 327

Glu	Asp	Cys	Ser	Pro	His	Ser	Gln	Pro	Trp	Gln	Ala	Ala	Leu	Val	Met
1				5					10					15	
Glu	Asn	Glu	Leu	Phe	Cys	Ser	Gly	Val	Leu	Val	His	Pro	Gln	Trp	Val
		20					25						30		
Leu	Ser	Ala	Ala	His	Cys	Phe	Gln	Asn	Ser	Tyr	Thr	Ile	Gly	Leu	Gly
		35					40					45			
Leu	His	Ser	Leu	Glu	Ala	Asp	Gln	Glu	Pro	Gly	Ser	Gln	Met	Val	Glu
		50				55					60				
Ala	Ser	Leu	Ser	Val	Arg	His	Pro	Glu	Tyr	Asn	Arg	Pro	Leu	Leu	Ala
65				70						75				80	
Asn	Asp	Leu	Met	Leu	Ile	Lys	Leu	Asp	Glu	Ser	Val	Ser	Glu	Ser	Asp
			85					90						95	
Thr	Ile	Arg	Ser	Ile	Ser	Ile	Ala	Ser	Gln	Cys	Pro	Thr	Ala	Gly	Asn
		100					105						110		
Ser	Cys	Leu	Val	Ser	Gly	Trp	Gly	Leu	Leu	Ala	Asn	Gly	Arg	Met	Pro
		115				120						125			
Thr	Val	Leu	Gln	Cys	Val	Asn	Val	Ser	Val	Val	Ser	Glu	Glu	Val	Cys
		130				135					140				
Ser	Lys	Leu	Tyr	Asp	Pro	Leu	Tyr	His	Pro	Ser	Met	Phe	Cys	Ala	Gly
145				150						155					160
Gly	Gly	Gln	Asp	Gln	Lys	Asp	Ser	Cys	Asn	Gly	Asp	Ser	Gly	Gly	Pro
			165						170					175	
Leu	Ile	Cys	Asn	Gly	Tyr	Leu	Gln	Gly	Leu	Val	Ser	Phe	Gly	Lys	Ala
		180					185						190		
Pro	Cys	Gly	Gln	Val	Gly	Val	Pro	Gly	Val	Tyr	Thr	Asn	Leu	Cys	Lys
		195					200						205		
Phe	Thr	Glu	Trp	Ile	Glu	Lys	Thr	Val	Gln	Ala	Ser				
210						215					220				

<210> 328

<211> 234
 <212> DNA
 <213> Homo sapien

<400> 328
 cgtctgtctc tggtagctgc agccaaatca taaacggcga ggartgcagc ccgcactcgc 60
 agcccttggca ggcggcactg gtcattgaaa agcaattgtt ctgctcgggc gtcttggtgc 120
 atcgcagctg ggtgctgtca gccacacact gtttcagaa ctctacacc atcgggctgg 180
 gcctgcacag tcttgaggcc gaccaagagc caggagacca gatggtagag gccca 234

<210> 329
 <211> 77
 <212> PRT
 <213> Homo sapien

<400> 329
 Leu Val Ser Gly Ser Cys Ser Gln Ile Ile Asn Gly Glu Asp Cys Ser
 1 5 10 15
 Pro His Ser Gln Pro Trp Gln Ala Ala Leu Val Met Glu Asn Glu Leu
 20 25 30
 Phe Cys Ser Gly Val Leu Val His Pro Gln Trp Val Leu Ser Ala Thr
 35 40 45
 His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu Gly Leu His Ser Leu
 50 55 60
 Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val Glu Ala
 65 70 75

<210> 330
 <211> 70
 <212> DNA
 <213> Homo sapien

<400> 330
 cccaacacaa tggcccgatc ccattccctga ctccggccctc aggatcgutc gtctcttgga 60
 gctgcagcna 70

<210> 331
 <211> 22
 <212> PRT
 <213> Homo sapien

<400> 331
 Gln His Asn Gly Pro Ile Pro Ser Leu Thr Pro Pro Ser Gly Ser Leu
 1 5 10 15
 Val Ser Gly Ser Cys Ser
 20

<210> 332
 <211> 2507
 <212> DNA
 <213> Homo sapien

<400> 332
 tgggtgccgt gcagccggca gagatgggtg agctcatgtt cccgctgttg ctctctcttc 60
 tgccttctt tctgcatatg gctgcgccc aaatcaggaa aatgctgtcc agtggggtgt 120

gtacatcaac	tgttcagctt	cctgggaaag	tagttgtggt	caacaggagct	aatncaggta	180
tcgggaagga	gacagccaaa	gagctggctc	agngaggagc	tcgagtatat	ttagcttgc	240
gggatgtgga	aaagggggaa	ctggf.ggcua	aagagatcca	gaucacgaca	gggaaccagg	300
aggtgttgg	gcggaaactg	gacutgtctg	atactaagtc	tattcagagc	tttgcataagg	360
gccttcttagc	tgaggaaaag	caactccacg	ttctgatcaa	caatgcaggga	gtgatgatgc	420
gtccgtactc	gaagacagca	gatggctttg	agatgcacat	aggagtcaac	caacttgggtc	480
acttctctct	ancccatctg	ctgctagaga	aactaaaggga	atcagcccaa	tcagggatag	540
tcaatgtgtc	ttccctcgca	catcacttgg	gaaggatcca	cttccataac	ctgcagggcg	600
agaaatctca	caatgcaggc	ctggcctact	gtcacagcaa	gctagccaac	atcctcttca	660
cccagggaact	ggcccgagga	ctaaaaggct	ctggcgttac	gacgtattct	gtacacccctg	720
gcacagtcna	atctgaactg	gtccggcaact	catctttcat	gagatggatg	tgtggccttt	780
tctccctttt	catcaagact	ctcagcagg	gagccacagc	cagcctgcac	tgtgccttaa	840
cagaaggtct	tcgagattct	agtgggaate	atcttcagtg	ctgtcatgtg	gcatgggtct	900
ctgcccaga	tcgtaatgag	actatagcaa	ggcggctgtg	ggacgtcagt	tgtgacctgc	960
tyggcctccc	aatagaacta	cagguaagtgc	caatctggac	caaggagaga	ctgcagcaga	1020
ctacacagta	cttcttgtca	aaatgactct	ccttcaaggc	tttcaaaac	cttgcacaaa	1080
agagagcaaa	accttccagc	cttgccttgc	tggtgtccag	ttaaaactca	gtgtacttgc	1140
agattctgtc	aaatgtctgt	catgtccaga	ttacttttgc	ttctgttact	gccaaggtta	1200
ctagagatct	cataatagga	taagaaagac	ctcatatgac	ctgcacagct	catcttctct	1260
ctgaagaaaa	ctactacctc	ggagaactca	agctatagca	gggatgatct	atgcacattct	1320
gaactagctt	cttctgtcac	aatttcagtc	ctcccaacca	acragcttct	acttcaagag	1380
ggccctactg	caacctcagc	ctaacatgaa	taacaagagc	tggttcagga	gcagggcttg	1440
cccaggcaty	gtggatcacc	ggaggtcagt	agttcaagac	cagcctggcc	aaataggtga	1500
aaaccacact	ctactaaaaa	ttgtgtatat	cttctgtgtc	cttctgtgtt	atgtgtgcca	1560
agggagatct	ttcacaaagt	tcaaaacagc	caactaatct	agagatggag	caaacacagt	1620
ccatccagtc	tttatgcaaa	tgaaatgctg	cnaagggaag	cagattctgt	atatgttgg	1680
aaactaccac	caagagcaca	tggttagcag	ggaaagagta	aaanaagaga	aggaagatac	1740
tggaagatca	tgcacaaaat	gaaggagact	gttaaggatt	aatlagccct	ttaaagatta	1800
actagttaa	gattaatagc	aaaagayatt	aaatatgcta	acatagctat	ggagggaatt	1860
agggcagaac	cccaggactg	atgaggtctt	aaacaaaacc	agtgtggcaa	aaanaaaaaa	1920
aaanaaaaaa	aaanaatcct	aaaacaaaca	aaacaaaaca	acaaatcttc	atccagaana	1980
attatcttag	ggactgatat	tggtaatat	ggtcaattta	atcaatatct	gggycatttc	2040
cttacctgt	cttgacaga	ttaaatgtc	tgtyccaaaa	ttttgtattt	catctggaga	2100
cttcttatca	aaagttaatc	tgccaaaggc	agttctaaaga	attagtagtg	ttcccatcac	2160
ttgtttggag	tgtgtacttc	taaaagattc	tgatttccctg	gaatgaacat	tatattttta	2220
cttctgggtgg	ggaaagagtt	ataggaccac	agttctcact	cttgatactt	gtaaattaat	2280
cttttatctgc	acttgttttg	accattaaac	ctatgtttta	gaaatggcca	ttttacggaa	2340
aaatttagaaa	aatctctgata	atagtgcaga	ataaatgaat	taatgtttta	cttaatttat	2400
attgaactgt	caatgacaaa	taaaaattcc	ttttgattat	ttcttgtttc	caatttaacc	2460
aatanaaacg	taagaattca	aagtttgatt	acaaaanaaa	aaanaaa		2507

<210> 333

<211> 3030

<212> DNA

<213> Homo sapien

<400> 333

gcaggcgact	tgcgaagctgg	gagcgattta	aaacgccttg	gattccuccg	gcctgggttg	60
ggagagcgag	ctgggtgccc	cctagattcc	cgcgccccgc	acctcatgag	cgcacccctc	120
gctccatgga	gcccggcaat	tatgccacct	tggatggagc	caaggatata	gaaggccttc	180
tgggagcggg	agggggggcg	aatctggtcg	cccactcccc	tctgaccagc	caccagcggy	240
cgcctacgct	gatgcctgct	gtcaactatg	cccccttggg	tctgcccaggc	tcggcgggagc	300
cgrcaaaagca	atgccaccca	tgccctgggg	tgccccagggy	gaggtcccca	gctcccgctc	360
cttataggta	ctttggagac	gggtactact	cctgcccaggt	gtcccggagc	tcgctgaac	420
cctgtgcccc	ggcagucacc	ctggccgctg	accccgcgga	gactccacag	gcgggggaag	480

agtacccacg	ycgcgccact	gagttttgct	tctatccggg	atatccggga	acctaccagc	540
ctatggccag	ttacctggac	gtgtctgttg	tgcagactct	gggtgctcct	ggagaaatgc	600
gacatgactc	cctgttgcc	gtggacagtc	accagtcttg	ggctctcgcl	ggtggctgga	660
acagccagat	gtgttgccag	ggagaaacga	anccaccagg	tccttttttg	aaggcagcat	720
ttgcagactc	cagcgagcag	caacctcctg	acgcctgcgc	ctttcgctgc	ggccgcaaga	780
aagcattcc	gtacagcaag	gggcagttgc	gggagctgga	ggggagatat	ggggctaaac	840
agttcatcac	caaggacaag	aggcgcaaga	tctcggcagc	caacagcttc	tcggagcgcc	900
agattaccat	ctggtttcag	aacngccggg	tcaagagaa	gaaggttctc	gcraaggatga	960
agaacagcgc	taccccttaa	gagatctcct	tgcctgggtg	ggaggagcga	aagtgggggt	1020
gtctctggga	gaccraggaac	ctgccaagcc	caggctgggg	ccaaggactc	tgctgagagg	1080
ccccctagaga	caacacccct	cccaggccac	tggctgctgg	actgttcttc	aggagcgccc	1140
tggttaccga	gttgtgtgag	ggagacggaa	ccccatgtga	cagcccaactc	ccacagggtt	1200
ccccaggaac	ctggccragt	cataatcatt	catcctgaca	gtggcaataa	tcacgataac	1260
cagttactagc	tgccatgata	gttagcctca	tattttctat	ctagagctct	gtagagcact	1320
ttagaaacccg	ctttcatgaa	ttgagntaat	tatgaataaa	tttggagggc	gatccctttg	1380
cagggaagct	ttctctcaga	cccctttcca	ttacacctct	caacctggta	acagcaggaa	1440
gactgaggag	aggcgaaacgg	gcagattcgt	tgtgtggctg	tgatgtccgt	ctagcatttt	1500
tctcagctga	cagctgggta	ggtggacaa	tgttagaggt	gtctcttctc	ccctccttgt	1560
ccaccccaata	gggtgtaccn	actggctctg	gaagcaccca	tccttaatac	gatgattttt	1620
ctgtctgtgtg	aaatgaaac	cagcaggctg	cccttagtca	gtccttctct	ccagagaaaa	1680
agagatttga	gaaggtgctt	gggtaatctc	ccattaatct	cctcccccaa	actctctgag	1740
tcttccctta	atatctctgg	tggttctgac	caaagcaggt	catggtttgt	tgagcatttg	1800
ggatcccaagt	gaagttagatg	ttgttagctc	tgcatactta	gccttcccc	ggcacaacacg	1860
gagtggcaga	gtggtgcca	ccctgttttc	caagtcacag	tagaacgatt	tcacagtgcgg	1920
aattcttgaa	gctggagaca	gaagggctct	tgcagagcc	gggactctga	gagggaacatg	1980
agggcctctg	cctctgtgct	caattctctga	tgtcctgtac	ctgggctcag	tgcccggttg	2040
gactcatctc	ctggcgcgcg	agcaaaagcca	gcgggttcgt	gctggctcct	cctgcacctt	2100
agactggggg	tgggggggct	gcccgcgcac	tctccacgat	tgagcgcaca	ggcctgaagt	2160
ctggacaaac	cgcagaacccg	agctccgag	cagcgggtcg	gtggcgagta	gtgggttcgg	2220
tggtcagcag	ttgggtggtg	gcccgcggccg	ccactacntc	gaggacattt	ccctccccga	2280
gccaagctctc	ctagaacaccc	cgcggcgggcc	gcccgcagcca	agtgtttatg	gcccgcgggtc	2340
gggtgggatc	ctagccctgt	ctcctctcct	gggaaggagt	gagggtggga	cgtgacttag	2400
acacctucaa	atctatttac	caaagaggag	cccgggactg	gggaaaaagg	ccaaagagctg	2460
tgagtgcattg	cggactgggg	gttcaggggga	agaggacagc	gaggaggaag	atgaggctga	2520
ttccttgatt	taaaataatcg	tccaagcccc	gtggtccagc	ttaaaggtcct	cgggttacatg	2580
cgcgcctcag	agcaggtuac	ttctgtcctt	ccacgtcctc	cttcaaggga	gcccacatgtg	2640
ggtagctttc	ttatctgcag	gttcttactc	ctctgctctc	ataagctcaa	acccaccaac	2700
gatacgggcaa	gtaaaacccc	tccctgcgcg	acttcgggac	tggtgagagt	tcagcgcagc	2760
tgggctctgtg	gggagggggc	agatagatg	agggggagcg	gcattggtgcg	gggtgacccc	2820
ttggagagag	gaaaagggcc	acaagagggg	ctgccaacgc	cactaacgga	gatggccttg	2880
gtagagacct	ttgggggtct	ggaacctctg	gaatcccat	gtcttaactc	ccacactctg	2940
ctatcagaaa	cttaaaccttg	aggattttct	ctgtttttca	ctcgcaataa	aytcagagca	3000
aaacaaaana	aaaaaanaaa	aaatctcgag				3030

<210> 334

<211> 2417

<212> DNA

<213> Homo sapien

<400> 334

ggcgcccgct	ctagagctag	tggtatcccc	cgggctgcac	gaattcgaca	cgaatgagtt	60
ggagttttac	ctgtattgtt	ttaaattcaa	caagccttag	gactagccac	aaatgtaccc	120
agtttcaaaa	tgaggaaaac	ggtgcacaaa	ggttcgttac	tgtcaagggt	cgtatgtggc	180
agagcacaag	tttgagccca	gttatgtctg	atgaacttag	cctatgctct	ttaaacttct	240
gaatgctgac	cattgaggat	atctaaactt	agatcaattg	catttcccc	ccaagacctat	300

ttacttctca	atncaataar	acacacctca	ccaacttatt	gttttgatar	gagactcann	360
tatgcccagt	atatgcaaaa	gcaacctaca	agctctctaa	tcctgctcnc	ctaaaagatt	420
ccccggatct	antaggctca	aagaaacttc	ttctagaaat	ataaaagaga	aanattggatt	480
atgcaaaaat	tcattatcaa	tttttttcat	ccatccttta	attcagcaaa	calttatctg	540
ttgttgactt	tatgcagtal	ggccttttaa	ggattggygg	acaggtgaag	aacgggggtgc	600
caaatgcat	cctcctacta	atgaggtcag	tacacatttc	cattttaaaa	tgccctgtcc	660
agctgggcat	ggtggatcat	gcctgtaatu	tcaacatttg	aaaggccaag	caggaggttt	720
gcttcagccc	aggagtccaa	gacacagctg	ggcaacatag	aaagacccca	tctctcaatc	780
aatcaaccaa	tgccctgtct	ttgaaaataa	aactctttta	gaagggttta	atgggcaggg	840
tytggttagct	calgcctata	atcacgcart	ttgggagggt	gaggcaggag	gatcatttta	900
gcccaggaat	tcaagaccag	cctgggcaac	aagtgcacac	tcatctcaat	tttttaataa	960
aatgaataca	tacataagga	aagataaaaa	gaaaggttta	atgaaggnat	acngtataaa	1020
acaaatctct	tggacctaaa	agtatctttg	ttcaagccaa	atatgtgaa	tcacctctct	1080
gtgttgagga	tacagaatat	ctaagcccaa	gaaactgagc	agaaagtta	tytactaac	1140
aatcaaccct	aggcaaggca	aaatgagac	taactaatca	atccgaggca	aggggcaaat	1200
tagacggaa	ctgactctgg	tcatttaagc	gacaactttc	cctctgttgt	atttttcttt	1260
tattcaatgt	aaaaggataa	aaactctcta	aaactaaaaa	caatgtttgt	caggagtta	1320
aaaccatgac	caatataatta	tggygaatca	taaaatctga	ccgatgaga	tcttgatgtt	1380
ttacaaagt	tacccactgt	taatcacttc	aaacttaac	gaacttaaaa	atgaatttac	1440
ggagattgga	atgtttcttt	cctgttgtat	tagttggttc	aggctgcat	acaaaaatc	1500
cacagactgg	gaggcttaag	taacagaaat	tcatttctca	cagttctggg	ggctgggaat	1560
cuaagatcaa	ggtgcaggaa	aggcaggctt	cattctgagg	ccccctctct	ggctcacatg	1620
tggcccccct	ccctactgct	gctcacatga	cctcttgttg	ctcctggaaa	gaggggtgtg	1680
gggacagagg	gaaagagaag	ggyaggggac	tctctggtgt	ctngtcttct	agggacccct	1740
acctgggtca	ctttgggtcc	ggcaactgtg	ggtygggggt	tgtggtgct	ctgctctgag	1800
tggccaagat	aaagcaacag	aaaatgtcc	aaagcgtgc	agcaaaagca	agccaccgaa	1860
cagggatctg	ctcatcagtg	tgggggcttc	caagtgggct	acccctggag	caagccccca	1920
caagagccat	gcaaggtggc	agcagcagaa	gaagggaatt	gtccctgtcc	ttggcaratt	1980
cctcacccga	ctggtgatgc	tggacactgc	gatgactggt	aatgtggatg	agaatgatgt	2040
ggactccrag	aaagggagac	ccagotgttc	aggtggctgc	aatcattac	agccttcctc	2100
ctggggagga	actgggggct	tggttctggg	tcagagagca	gcccagtgag	ggtgagagct	2160
acagcctgtc	ctgcccagct	gatcccccag	ccccgtcaac	cagtaatcaa	ggctgagcag	2220
atcaggcttc	ccggagctgg	tcttgggaag	ccagccctgg	ggtgagttgg	ctcctgctgt	2280
ggtactgaga	caatatctgt	ataaatctca	tgcgcctctg	tatccctttt	ttttttttat	2340
ctgtctatcat	ctataatcac	tatgcatact	agttcttgtt	agtggttctta	ttcmaactta	2400
tagagatatg	ttataact					2417

<210> 335

<211> 2984

<212> DNA

<213> Homo sapien

<400> 335

atccctctct	ccccactctc	ctttccagaa	ggcacttggy	gtcttatctg	ttggartctg	60
aaaacacttc	agggcgcctt	craaggcttc	cccgaarccc	taagcagccg	cagaagcgt	120
cccagactgc	cttctcccac	actcaggtga	tcaglttgga	gaagaaagttc	agccatcaga	180
agtacctgtc	ggcccttgaa	cgggcccacc	tggccaagaa	cctcaagctc	acgyagaccc	240
aagtgaagat	atggttccag	aacagaagct	ataagactaa	gcgaaagcag	ctctcctcgg	300
agctgggga	cttggagaag	cactcctctt	tgcnggcctt	gaagagaggag	gurtctctcc	360
gggcctccct	ggtctccgtg	tataacagct	atccttacta	cccatacctg	tactgcgtgg	420
gcagctggag	cccagctttt	tggtaattgc	agctcaggtg	acaaacattta	tgatcaaaaa	480
ctgctttccc	caggtgtctt	ctatgaaaag	cacaaggggc	caaggtcagg	gagcaagaag	540
tgtgcacacc	aaagctattg	gagattttgc	tggaaatctc	aatctcttca	ctggtgagac	600
aatgaaacaa	cagagacagt	gaaagtttta	atacctaagt	cattccccc	gtgcatactg	660
taggtcattt	tttttgcctc	tggctacctg	tttgaagggg	agagagggaa	aatcaagtg	720

tatcttccag	cactttgfat	gattttgfat	gagctgtaca	cccaaggall	ctgttcgcca	780
actccatert	ccgtgtgtac	tgaatatcaa	ctctgaanga	gcaaacctaa	caaggagaaag	840
gacaaccagg	atgaggatgt	caccaactga	attaaactta	agtcragaaq	cctcctgrrg	900
grcttggaaat	atggccaagg	ctctctctgt	ccctgttaaa	gagaggggca	aalagagagt	960
ctccaagaga	acgccctcat	gctcagcaen	tatttgcabg	ggagggggag	atgggtggga	1020
ggagatgaaa	atatcagott	ctcttattcc	tctttatter	ttttaaaatg	glatgrcaac	1080
ttlaagtattt	acagggtggc	ccaactagaa	caagatgcac	tcgctgtgat	tttaagacaa	1140
gctgtataaa	cagaactcca	ctgcaagagg	ggggggccgg	ccaggagaaat	ctccgcttgt	1200
ccaagacagg	ggcctaaggga	gggtctccac	actgctgcta	ggggctgttg	cattttttta	1260
ltagcagaaa	gtggaaaggc	ctcttctcaa	cttttttccc	ctgggttgga	gaatttagaa	1320
tcagagattt	cctggagttt	tcaggctatc	atatatactg	tatcctgaaa	ggcaacataa	1380
ttcttccctc	cctcctttta	aaatrttgtg	ttcctttttg	cagcaattac	loactaaagg	1440
gottccattt	agtcagatc	tttagtctgg	ctgracctaa	cttatgcctc	gcttatrtag	1500
cccagagatc	ggcttttttt	tttttttttt	tttttccgtc	tcaccaaaagc	tttatctgtc	1560
ttgacttttt	aaataaagt	gggggcagat	cttgaatttg	ctaaaagaca	tgcattttta	1620
aaactagcha	ctcttatttc	tttcccttta	aatatcatcg	cattaaatcc	uaaatccat	1680
ttaaagacct	gacagcttga	gaaggctcact	actgcattta	taggaacctc	tgggtggtct	1740
gctgttacgt	ttgaagtctg	acatcccttg	agaatctttg	cattgcagagg	aggttaagagg	1800
tattggattt	tcacagagga	agaacacagr	gcagaaatga	gggccaggtc	tactyagctg	1860
tcagatggag	ggctcatggg	tgggacatgg	aaaagaaggc	agcctaggcc	ctggggagcc	1920
cagtcacttg	agcaagcaag	ggactgagtg	agccttttgc	aggaataagg	taagaaataag	1980
gaaaaccatt	ctaaaacaca	acaagaaact	gtccaaatgc	tttgggaact	gtgtttattg	2040
cctataatgg	gtccccaaaa	tgggtlaacct	agacttcaga	gagaaatgag	agagagcaaa	2100
ggagaaacct	ggctgtccct	ccattttctt	ctgtttatct	caggtgagct	ggttagagggg	2160
agacattaga	aaaaaatgaa	acacacaaac	acttactaat	gaggtacgct	gaggccttgg	2220
agtctcttga	ctccactact	taattccgtc	tagtgagaaa	cctttcaatt	tttttttatt	2280
agaagggcca	gcttactgtt	ggtggcaaaa	ttgccaaact	aaagtacatg	aaagtgggct	2340
aatttccacc	cattttctgt	gggtcgggct	ccacattgca	atgttcaatg	ccacgtgtctg	2400
ctgaacccga	caggagtcct	agccagracca	aaagggcaggg	tagcrtgaa	cgctttctgc	2460
tctttacatt	tcttttaaaa	taagcattta	gtgctragtc	cctactgagt	actctctctc	2520
tcacctcttc	tgaatttaat	totttcaact	tgcaatttgc	aaggattaca	catttcactg	2580
tgatgtat	tgtgttgcaa	aaaaaadaaa	agtggtcttt	gttttaaat	acttggtttg	2640
tgaatccatc	ttgttttttc	ccatttggaa	ctaggtcatta	acccatctct	gaactggtag	2700
aaaaacatct	gaagagctag	tctatcagca	tctgacaagg	gaattcgatg	gttctcagaa	2760
ccatttcacc	cagacagcct	gtttctatcc	tgtttaataa	attagtttgg	gttccctaca	2820
tgcataaana	acctgtctcc	aatctgtcac	ataaaagtct	gtgacttgaa	gttagtcag	2880
cacccccacc	aaatcttatt	tttctatgtg	ttttttgcaa	catatgagtg	trttgaaat	2940
aaagtaccca	tgtctttatt	ayaaanuaa	aaaaaaadaa	aaaa		2984

<210> 336

<211> 147

<212> FRT

<213> Homo sapien

<400> 336

Pro	Ser	Phe	Pro	Thr	Leu	Leu	Ser	Arg	Arg	His	Leu	Gly	Ser	Tyr	Leu
1				5				10						15	
Leu	Asp	Ser	Glu	Asn	Thr	Ser	Gly	Ala	Leu	Pro	Arg	Leu	Pro	Gln	Thr
			20					25					30		
Pro	Lys	Gln	Pro	Gln	Lys	Arg	Ser	Arg	Ala	Ala	Phe	Ser	His	Thr	Gln
			35					40					45		
Val	Ile	Glu	Leu	Gln	Arg	Lys	Phe	Ser	His	Gln	Lys	Tyr	Leu	Ser	Ala
			50					55				60			
Pro	Glu	Arg	Ala	His	Leu	Ala	Lys	Asn	Leu	Lys	Leu	Thr	Glu	Thr	Gln
			65					70				75			80

Val Lys Ile Trp Phe Gln Asn Arg Arg Tyr Lys Thr Lys Arg Lys Gln
 85 90 95
 Leu Ser Ser Glu Leu Gly Asp Leu Glu Lys His Ser Ser Leu Pro Ala
 100 105 110
 Leu Lys Glu Glu Ala Phe Ser Arg Ala Ser Leu Val Ser Val Tyr Asn
 115 120 125
 Ser Tyr Pro Tyr Tyr Pro Tyr Leu Tyr Cys Val Gly Ser Trp Ser Pro
 130 135 140
 Ala Phe Trp
 145

<210> 337

<211> 9

<212> PRT

<213> Homo sapien

<400> 337

Ala Leu Thr Gly Phe Thr Phe Ser Ala
 1 5

<210> 338

<211> 9

<212> PRT

<213> Homo sapien

<400> 338

Leu Leu Ala Asn Asp Leu Met Leu Ile
 1 5

<210> 339

<211> 318

<212> PRT

<213> Homo sapien

<400> 339

Met Val Glu Leu Met Phe Pro Leu Leu Leu Leu Leu Leu Pro Phe Leu
 1 5 10 15
 Leu Tyr Met Ala Ala Pro Gln Ile Arg Lys Met Leu Ser Ser Gly Val
 20 25 30
 Cys Thr Ser Thr Val Gln Leu Pro Gly Lys Val Val Val Val Thr Gly
 35 40 45
 Ala Asn Thr Gly Ile Gly Lys Glu Thr Ala Lys Glu Leu Ala Gln Arg
 50 55 60
 Gly Ala Arg Val Tyr Leu Ala Cys Arg Asp Val Glu Lys Gly Glu Leu
 65 70 75 80
 Val Ala Lys Glu Ile Gln Thr Thr Thr Gly Asn Gln Gln Val Leu Val
 85 90 95
 Arg Lys Leu Asp Leu Ser Asp Thr Lys Ser Ile Arg Ala Phe Ala Lys
 100 105 110
 Gly Phe Leu Ala Glu Glu Lys His Leu His Val L u Ile Asn Asn Ala
 115 120 125
 Gly Val Met Met Lys Pro Tyr Ser Lys Thr Ala Asp Gly Phe Glu Met
 130 135 140
 His Ile Gly Val Asn His Leu Gly His Phe Leu Leu Thr His Leu Leu

145		150		155		160
Leu Glu Lys Leu Lys Glu Ser Ala Pro Ser Arg Ile Val Asn Val Ser						
	165		170		175	
Ser Leu Ala His His Leu Gly Arg Ile His Phe His Asn Leu Gln Gly						
	180		185		190	
Glu Lys Phe Tyr Asn Ala Gly Leu Ala Tyr Cys His Ser Lys Leu Ala						
	195		200		205	
Asn Ile Leu Phe Thr Gln Glu Leu Ala Arg Arg Leu Lys Gly Ser Gly						
	210		215		220	
Val Thr Thr Tyr Ser Val His Pro Gly Thr Val Gln Ser Glu Leu Val						
	225		230		235	
Arg His Ser Ser Phe Met Arg Trp Met Trp Trp Leu Phe Ser Phe Phe						
	245		250		255	
Ile Lys Thr Pro Gln Gln Gly Ala Gln Thr Ser Leu His Cys Ala Leu						
	260		265		270	
Thr Glu Gly Leu Glu Ile Leu Ser Gly Asn His Phe Ser Asp Cys His						
	275		280		285	
Val Ala Trp Val Ser Ala Gln Ala Arg Asn Glu Thr Ile Ala Arg Arg						
	290		295		300	
Leu Trp Asp Val Ser Cys Asp Leu Leu Gly Leu Pro Ile Asp						
	305		310		315	

<210> 340
 <211> 483
 <212> DNA
 <213> Homo sapien

<400> 340	
gcccagggtct gcccttcacac ggaggacacg agactgtctc ctcaagggtct cctgcttgc	60
tggacactgg tgggaggcgc tgtttagttg gctgttttca gaggggtctt tggaggggac	120
ctcctgtctgc aggtctggagt gtctttattc ctggcgggag accgcacatt ccactgctga	180
ggttggtggg gcggtttatc aggcagtgat aaacataaga tgtcatttcc ttgactcggg	240
ccttcaattt tctctttggc tgacgacgga gtccgtggtg ccccgatgta actgacccct	300
gctccaaaag tgacatcact gatgtctctc tgggggtgac tgatggcccg ctgggtcacg	360
tgctcaattt cgcatttcga ctcttgcctc aaactgtatg aagacacctg actgcacgtt	420
tcttcggggt ttccagcatt taaagtgaac ggcagcactc ctaggctccg actcrgatgc	480
ctg	483

<210> 341
 <211> 344
 <212> DNA
 <213> Homo sapien

<400> 341	
ctgctgctga gtcacagatt tcattatcaa tagcctcrrt aaggaaaaba cactgaatgc	60
tatttttaet aaccattcta tttttataga aatagctgag agtttctaaa ccaactctct	120
gctgccttac aagtattaaa tattttactt ctttcataaa agagtgcctc aaatattgca	180
actaatitaa taattctcga tgatggcttt atctgcngta atctgtatat catctattag	240
aatttactta atgaaaaact gaagagaaca aaatttgtaa ctactagcac ttaagtactc	300
ctgattctta acattgtctt taatgaccac aagacaacca acag	344

<210> 342
 <211> 592
 <212> DNA
 <213> Homo sapien

<400> 342

acagcaaaaa	agaaactgag	aagcccaaty	tgctttcttg	ttaacatcca	cttatecaac	60
caatgtggaa	acttcttata	cttgggttcca	ttatgaagt	ggacaattgc	tgctatcaca	120
cctggcaggt	aaaccaatgc	caagagagtg	atggaaacca	ttggcaagac	tttgttgatg	180
accaggatgg	gaattttata	aaaalattgt	tgatgggaag	ttgctaaagg	gtgaattact	240
ccccacgaa	gagtgcaaaq	aaaagtcaga	gatgctataa	tagcagctat	tttaattggc	300
aagtgcact	gtggaaagag	ttcclgtgtg	tgctgaagt	ctgaaggggca	gtcaaatcca	360
tcagcatggg	ctgtttggtg	caaatgcaaa	agcaragggtc	tttttagcat	gctgggtctct	420
cccgctgctc	tatgcaata	atcgtcttct	cttcaatttc	tctagggtt	cattttccaa	480
agctcttctt	ggtttgctat	gtcttttctg	cttccratca	attctataaa	atagtatggc	540
ttcagccacc	cactcttcgc	cttaguttga	ccgtgagctc	cggctgcgcg	tg	592

<210> 343

<211> 382

<212> DNA

<213> Homo sapien

<400> 343

ttcttgacct	ctctctctt	caagctcaaa	caccacctcc	cttattcagg	acgggcactt	60
cttaattgtt	gtggctttct	ctcagacctc	ctttaggagg	ggtaatgggt	gagttggcat	120
cttgraactc	tcctttctcc	cttctctccc	ttctctgccc	cgcctttccc	atcctgctgt	180
agactctctg	attgtcagtc	tytgtcacat	ccagtgattc	ttttgggttc	tggtctcttc	240
ctgactgccc	aaaggggctc	gaaccccagc	aatccctccc	ctcactccc	ttcttttttg	300
ggggtagctg	gaagggaactg	aaattgtggg	gggaaggcac	gaggcacatc	antaaagagg	360
aaaccaccca	gctgaaaaaa	aa				382

<210> 344

<211> 536

<212> DNA

<213> Homo sapien

<400> 344

ctgggcccga	agctgtaggg	tcaatcagag	gcaggcttct	gagtcgatgag	agtcttgaga	60
caataggcca	cataaacttg	gctgggttga	acctcacaa	aaagtgggtc	ccctctgttt	120
gcttaggggg	atgccaaggga	taaggccagc	tcagttatat	gaagagaaag	agaacaaaca	180
agtccttcag	agaaatggat	gcactcagag	tgggatcccg	gtcacatcan	ggtrcacactc	240
caccttcctg	tgcctgaaag	gttgcraggt	cagaaaaatc	caccccttac	gagtgcgggt	300
tcgacctatc	atcccccgc	cgcgtccctt	cttccataaa	attcttctta	gtagctatta	360
ccctcttatt	atttgatcta	gaaattgccc	tccttttacc	cttaccatga	gcccacaaaa	420
caactaacct	gccactaata	gttatgtcat	ccctcttatt	aatcatcctc	ctagccctaa	480
gtctggccta	tgagtgaacta	caaaaaggat	tagactgagc	cgaataacaa	aaaaaa	536

<210> 345

<211> 251

<212> DNA

<213> Homo sapien

<400> 345

accttttgag	gtctctctca	ccacctccac	agccaccgtc	accgtgggat	gtgctggatg	60
tgaatgaagc	ccccatcttt	gtgctcctg	aaaagagagt	ggaagtgtcc	gaggactttg	120
gcgtgggcca	ggaaatcaca	tctacactg	cccaggagcc	agacacattt	atggaaacaga	180
aaataacata	tcggatttgg	agagacactg	ccaactggct	ggagactaat	ccggacactg	240
gtgcacattc	c					251

118

<210> 346
 <211> 282
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(282)
 <223> n = A,T,C or G

<400> 346
 cgcgtctctg acactgtgat catgacaggg gttcaaacag aaagtgcctg ggccctcctt 60
 ctaagtcttg ttaccgaana aaggkaaaag aadagatctt ctcagttaca atttctggga 120
 aggggagacta taactggctc ttgccctaag tgagagggtt tccctcccgcc accaaaaaat 180
 agaaaggctt tctatktcac tggcccaggc aggggggaagg agagtcaact tgagctcttg 240
 ggtctcattt cccaaggctgc cttcaatgct catnaaaacc aa 282

<210> 347
 <211> 201
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(201)
 <223> n = A,T,C or G

<400> 347
 acacacataa tattatanaa tggcatotaa ttgggaaggag ctttctatca ttgcaagtca 60
 taatataac ttttaaaana ttactancaa cttttaccta agctcctaaa tgccttgtaaa 120
 tctgagactg actggaccca cccagaacca gggcaaaagat acatgttacc atatcatctt 180
 tataaagaat tttttttctg c 201

<210> 348
 <211> 251
 <212> DNA
 <213> Homo sapien

<400> 348
 ctgttaatca caacatctgt gcatcacttg tggcaagtga gaaaatgttc taanaatcaca 60
 agagagaaca gtgccagaat gaaartgacc ctaagtccca ggtgccccty ggcaggcaga 120
 agggagacact cccagcatgg agggagggtt atcttttcat cctagggtcag gtctacaaatg 180
 ggggaagggtt ttattataga actcccaaca gcccacctca ctcttgccac ccacccgatg 240
 gccctgectc c 251

<210> 349
 <211> 251
 <212> DNA
 <213> Homo sapien

<400> 349
 taanaatcaa gccatttaac tgtatctctg aaggtaaaac atatattggga gctggatcac 60
 aacccctgag gatgccagag ctatgggttc agaacatggc gtggatattat caacagagtt 120
 cagaagggtc tgaactctac gtgttaccag agaacataat gcaattcatg catccactt 180
 agcaattttg taanaatcaa gaaacagacc ccaagagctt ttcaagatga ggaanaatcca 240

actccttggtt t

251

<210> 350

<211> 908

<212> DNA

<213> Homo sapien

<400> 350

ctggacactt	tgcgagggct	tttgcctggt	gctgctgctg	cccgctcatgc	cactcatcgt	60
agcccgcccg	gtgaagctcg	ctgcttcc	tacctcctta	agtgaactgcc	aaacgcccac	120
cggtcggagt	tgctcgggt	atgatgacag	agaaaatgat	ctcttccctc	gtgacaccaa	180
cacctgtaaa	tttgatgggg	aatgtttaag	aattggagag	actgtgactt	gcgtctgtca	240
gttcaagtgc	aacaatgact	atgtgcctgt	gtgtggctcc	aatggggaga	gctaccagaa	300
tgagtgttac	ctgcgacagg	ctgcctgcaa	acagcagagt	gaggtacttg	tgggtgtcaga	360
aggatcatgt	gccacagtc	atgaaggctc	tggagaaact	agtcaaaagg	agacatccac	420
ctgtgatatt	tgcagtttg	gtgcagaatg	tgacgaagat	gccgaggatg	tctgggtgtgt	480
gtgtaatatt	gactgtcttc	aaaccaactt	caatcccttc	tgcgcttctg	atgggaaatc	540
tcctgataat	gcctgccaac	tcaaaagagc	atcgtgtcag	aaacaggaga	aaattgaagt	600
catgtctctg	ggctgatgtc	aagataacac	aactacnact	actaagtctg	agatgggca	660
ttatgcanga	acagattatg	cagagaatgc	taccaaatta	gaagaaagtg	ccagagaaca	720
ccacatacct	tgtccggaac	attacaatcg	cttctgcctg	catgggaagt	gtgagcattc	780
tatcaatctg	caggagccat	cttgcaaggtg	tgatgtctgg	tatactggac	aacactgtga	840
aaaaaaggac	tacagtgttc	tatacgttgt	tccnggtcct	gtacgatttc	agtatgtctt	900
aatgcgag						908

<210> 351

<211> 472

<212> DNA

<213> Homo sapien

<400> 351

ccagtatttt	gcaagtggta	agagcctatt	taccataaat	aatactaaga	accaactcaa	60
gtcaaacctt	aatgccattg	ctattgtgaa	taggatttaa	gtagtaattt	tcaaaattca	120
cattaaactg	atttttaaa	cagwtctgyg	agtcatttac	cacaagrtaa	atgtgtacac	180
tatgataaaa	acaaccattg	tattccctgt	ttctcnaaca	gtcctaattt	ctaacactgt	240
atatatctt	cgacatcaat	gaaccttggt	ttcttttact	ccagtaataa	agtaggcaca	300
gatctgtcca	caacaaactc	gcoctctcat	gccttgcctc	tcaccatgct	ctgctccagg	360
tcagcccctt	ttggcctgt	ttgttttctc	aaaaacctaa	tctgcttctt	gcttttcttg	420
gcaatatata	ttcagggag	atgtctgctt	gcccacacac	gaagcazagc	aa	472

<210> 352

<211> 251

<212> DNA

<213> Homo sapien

<400> 352

ctcaaaagcta	atcctctcggg	aatcaaacca	gaagagggca	aggatcttag	gcatggtgga	60
tgtggataag	gccaggtcaa	tggctgcaag	catgcagaga	aagaggtaaa	tccgagcgtg	120
caggctgctg	tccgtcctta	cgatgaagac	cacgatgcag	tttccaaaca	ttgccactac	180
atcacatgga	aggaggggga	agccaaacca	gaatgggct	ttctctaate	ctgggatacc	240
aataagcaca	a					251

<210> 353

<211> 436

<212> DNA

<213> Homo sapien

<400> 353

tttttttttt	tttttttttt	tttttttttt	caatgcagtc	atttatttat	tgagtatgtg	60
cacattatgg	tattattact	atactgatta	tatttatcat	gtgacttcta	attoraaat	120
gtatccaaaa	gcanaacagc	agatatccaa	aattaaagag	acagaaagata	garatttaca	180
gataaggcca	cttatccatt	gacattccaa	atccaatcca	tttaaaattt	tgaggaaatga	240
gggggacaaa	tggaagccar	atcaaatctg	tgtaaaaact	ttcagtatgt	ttcccttgct	300
tcatgtctga	raaggctctc	ccttcaatgg	ggatgacaaa	ctccaaatgc	cacacaaatg	360
ttaacagaat	actagatcca	cactggaaacg	gggtgaaaga	agaaattatt	ttctataaaa	420
gggtccttaa	tgtagt					436

<210> 354

<211> 854

<212> DNA

<213> Homo sapien

<400> 354

ccttttctag	ttcaccagtt	ttctgcagg	atgctgggta	gggagtgtct	gcaggaggag	60
caagtctgaa	accaaatcta	ggaaacatag	gaacagagcc	aggcncagg	ctggtgggcc	120
atcaggggacc	accttttggg	ctgatatttt	gctcaatctg	catcttttga	gtaagatcat	180
ctggcagtag	aagctgttct	ccaggtacat	ttctctagct	catgtacaaa	aacatcctga	240
aggactttgt	cagggtgctt	gctaaaaagc	agatgcgttc	ggcacttctt	tggtctgagg	300
ttcaattgcac	acctacaggg	actgggctca	tgttttcang	tatcttgctc	tcactttagg	360
gtgagtgaaa	gatccaccct	ataggagcwo	ttgggngaga	tcataataaa	gctgactctt	420
gaatcatatgc	agtaatgggg	tagatgtgtg	tggtgtgctt	tcattcctgc	aagggtgctt	480
gttagggagt	gtttccaggga	ggaaacagtc	tgaaaccaat	catgaaataa	atgggtaggct	540
tgaactggaa	aactaatcca	aaagagagat	cgtgatctca	gtgtggttga	tacaccttgg	600
caatatggaa	ggctctaatt	tgcccatatc	tgaataata	attcagcttc	ttgtaataca	660
aaataacaaa	ggattgagaa	tcatggtgtc	tatgtatcaa	aagaaccagg	aaacataaat	720
atatcaactg	catcaatgta	aatgtcatgt	gacccaagaa	ggccccaag	tggcagacaa	780
cattgtaccc	attttccctt	ccaaaatgtg	agcggcgagg	ctgctgtctt	caaggcctgtc	840
acacgggagt	tcag					854

<210> 355

<211> 676

<212> DNA

<213> Homo sapien

<400> 355

gaatttaagt	atgagctaaa	ttccctgtta	aaacctctag	gggtgacaga	ttctttcaac	60
cagggtcaag	ctgatctttc	tggaatgtca	ccaaccnagg	gcttatattt	atcnaaagcc	120
atccacaaat	cataccrnga	tgtcagcgaa	gaggggcacgg	aggcagcagc	agccactggg	180
garagcatcg	ctgtaaaaag	cccaccatgt	agagctcagt	tcaaggcgaa	ccaccctttc	240
ctgttcttta	taaggcacac	tcataccaac	acgatccctat	tctgtggcaa	gcttgccctt	300
ccctaactcg	atgggggttg	gtaaaggtca	gagt tgcaga	tgagggtgcag	agacaatcct	360
gtgactttcc	cacggccaaa	aagcggttca	cccttcacgc	acctctgtgc	ctcagcttgc	420
tcatctgcua	aataggtcta	ggatttcttc	caaccatttc	atgagctgtg	aagctaaggc	480
tttgttaatc	atggaaaag	gtagacttat	gcagaaagcc	tttctggctt	tcttatctgt	540
gggtgtctcat	ctgagtgttg	ttcagtgaca	tcatcaagtc	aatgagtaaa	atttcaaggg	600
attagatttt	cttgacttgt	atgtatctgc	gagatcttga	ataagtgaac	tgacatctct	660
gcttaaaaga	aaccag					676

<210> 356

<211> 574

<212> DNA

<213> Homo sapien

<400> 356

tttttttttt	tttttcagga	aaacattctc	ttacttttatt	tgcattctcag	caaagggtct	60
catgtggcac	ctgactggca	tcaaacccaa	gttcgttaggc	caacaaggat	gggccactca	120
caagcttccc	atttctagat	ctcagtgcct	atgagtatct	gacacctgtt	ctctcttcca	180
gtctcttagg	gaggcttaaa	ctctgtccag	gtgtgctaag	agtgcacagcc	caaggkggtc	240
aaaagtcac	aaaaactgcag	tctttgctgg	gatagttaagc	caagcagtgc	ctggacagca	300
gagttctttt	cttgggcac	agataaccag	acaggactct	aatcgtgctc	ttattcaaca	360
ttctctctgtc	tctgcctaga	ctggaaataa	aagccaatct	ctctcgtggc	acagggaagg	420
agatacaagc	tcgttttaact	gtgatagatc	taacaaaggc	atctaccgaa	gtctggtctg	480
gatagacggc	acagggagct	cttaggtcag	cgctgctggc	tggaggacat	tcctgagtc	540
agctttgcag	ctttgtgca	acagtacttt	ccca			574

<210> 357

<211> 393

<212> DNA

<213> Homo sapien

<400> 357

tttttttttt	tttttttttt	tttttttttt	taacgaatat	aratgcttta	tcactgkaet	60
taatatggkg	kottgttcc	tatacttaaa	aatgcaccac	tcataaatat	ttaatccagc	120
aagccacaac	caaxactga	ttttatcaac	aaacacccct	aatataaac	ggaaaaaag	180
atagatataa	ttattccagt	cttttataaa	cttaaaarat	attccattgc	cgaattaa	240
araaratang	tggttatatg	aaagaagggc	attcaagcac	actaaaraaa	cctgaggkaa	300
gcataatctg	tacnaaat	aactgtcctt	tttggcattt	taacaaat	gcaacgktct	360
tttttttctt	cttctgtctt	tttttttttt	tac			393

<210> 358

<211> 630

<212> DNA

<213> Homo sapien

<400> 358

acagggttaa	caggaggatc	cttgcctctca	cggagcttac	attctagcag	gaggacaata	60
ttaatgttta	taggaaatg	atgagcttat	gacaaaggaa	gtagatagt	ttttacaaga	120
gcataagata	gggaagctaa	tccagracag	ggaggtcaca	gagacatccc	taagggaagt	180
gagtttaaac	tgagagdagc	aagtgtctaa	actgaaggat	gtgttgaa	agaaggagga	240
gtagaacaat	ttgggcagag	ggaaccttat	agacctaag	gtgggaagg	tcaaggaa	300
gaaagagagc	tagaacagct	ggagccgttc	tccgggtgta	agaggagtca	agagagataa	360
attaaagatg	tgaagattaa	gatcttgggt	gcattcagg	attggcactt	ctacaagaaa	420
tcactgaagg	gagtaatgtg	acattacttt	tcatttcagg	atggccattc	taactccagg	480
gggtagactg	gactaggtaa	gactggaggr	aggtagacct	cttctaaggc	ctgogatagt	540
gaaagacaaa	aataagtggg	gaaattcagg	gtagagtga	aatcagtagg	acttaatgag	600
caagrcagag	gttcctccac	aacaaccagt				630

<210> 359

<211> 620

<212> DNA

<213> Homo sapien

<400> 359

acagcattcc	aaaatatata	tctagagact	aarrgtaaat	gctctatagt	gaagaagtaa	60
taattaaaaa	atgctactaa	tatagaaaat	ttataatcag	aaaaataaat	attcaggagg	120

ctccaccgaa	gaataaagtg	ctctgccagt	tattaaagga	ttactgctgg	tgaattaaat	180
atggcattcc	ccaagggaag	tggagagatt	cttctggatt	atgttcata	tttatttcc	240
aggattact	gttttagga	cagatataa	gcttcgccac	ggagagatg	gacaaagca	300
aaagacaac	tgatacctta	gyaagcaac	ctacccttcc	aggcatanaa	tttggagaaa	360
tgcacactta	tgttcatga	ataatattga	gaaagaaggt	ctgatgaaa	tgacatctt	420
aatgtaaagt	aactttataa	gaattctggg	tcaaatanaa	ttctttgaag	aaaacatcca	480
aatgtcattg	aattatcnaa	tactatcttg	gcataaacc	tatgaaggca	aaactaanaa	540
naaaaagag	tcacacnaa	cnaaacctac	aacttatttt	gtattctata	acatacgaga	600
ctgtaaagat	gtgacagtg					620

<210> 360

<211> 431

<212> DNA

<213> Homo sapien

<400> 360

aaanaaaaa	agccagana	acatgtgata	gataatatga	ttggctgcac	atttcagac	60
tgatgaatga	tgaacgtgat	ggactattgt	atggagcaca	tcttcagcaa	gagggggaaa	120
tactcatcat	ttttggccag	cagttgttly	atraccaaac	atcatgccag	aatactcagc	180
naaccttctt	agctcttgag	nagtcnaagt	ccgggggaat	ttaltccttg	caattttaat	240
tggactctct	atgtgagagc	agcggctacc	cagctggggg	ggtggagcga	accgctcact	300
agtggacatg	cagtggcaga	gtccttggtt	accacctaga	ggaataraca	ggcacatgtg	360
tgatgccaag	cgtgacacct	gtagcaactc	aatctgtctt	gtttttgtct	ttcggcgtgt	420
agattcttag	t					430

<210> 361

<211> 351

<212> DNA

<213> Homo sapien

<400> 361

acactgattt	ccgatcaaaa	gaatcatcat	ctttaccttg	acttttcagg	gaattactga	60
actttcttct	cagaagatag	ggcacagcca	ttgcttggc	ctcacttgaa	gggtctgcat	120
ttgggtctct	tggctctctg	ccaagtcttc	cagccactcg	agggagaaat	atcgggaggt	180
ttgacttctt	ccggggcttt	cccgaggggc	tracnctgag	ccctgcggcc	ctcagggtcg	240
caactctgga	ttcaatgtct	gaaacctcgc	tctctgcctg	ctggacttct	gaggccgtca	300
ctgcaactct	gtctccagc	tctgacagct	ctcactctgt	ggtcctgttg	t	351

<210> 362

<211> 463

<212> DNA

<213> Homo sapien

<400> 362

acttcactcag	gccataatgg	gtgcctcccg	tgagaatcca	agcacctttg	gactgcgcga	60
tgtagatgag	ccggctgag	atcttgcgca	tgcgcggctt	cagggcgag	ttcttggcgc	120
ccccggctc	agaaatgac	aggttgggtg	ttttcaggtg	ccagtgctgg	gtcagcagct	180
cgtaaaggat	ttccgcgtcc	gtgtcgcagg	acagacgtat	atacttccct	ttcttcccca	240
gtgtctcnaa	rtgaatatcc	ccaaaggcgt	cggtaggaaa	ttctttgggtg	tgttctctgt	300
agttccattt	ctcacttttg	tggatctggg	tgccttccat	gtgctggctc	tgggcatagc	360
cacacttgca	cacattctcc	ctgatangca	cgatggcttg	gacaggagag	aagggaattca	420
ttgagcctgc	ttatggaaac	tgtatttgtt	agcttaaatc	gac		463

<210> 363

<211> 653

<212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (2)... (653)
 <223> n = A,T,C or G

<400> 363

accccagagt	ncctgnetgg	catactgnga	acgaccaacg	acacacocaa	gctcggcctc	60
ctcttggnga	ttctgggtga	catcttcacg	aatggcaacc	gtgccagwga	ggctgtcttc	120
tgggaggcac	tacgcaagat	gggactgcgt	cctggggtga	gacatccctc	ccttggagat	180
ctaaccgaac	ttctcaccta	tgagttgtaa	agcagaaata	cctgnactec	agacgagtgc	240
ccaacagcaa	ccccccggaa	gtatgagttc	ctctryggcr	tccgttctta	ccttgagasc	300
taggcaagatg	naagtgttga	gantcattgc	aguggltcag	aaaagagacc	cntcgtgact	360
ggtctgcaca	gttcatggag	gctgcagatg	aggccttggg	tgtctcggat	gctgctgcag	420
ctgaggccga	agcccgggct	gaagcaagaa	cccgcctggg	aatggagat	gagcctgtgt	480
ntgggcccctg	gagctgggat	gacattgagt	tcgagctgct	gacctgggat	gagggaaggag	540
atcttggaga	tccttgggtc	agaattccat	ttacctctctg	ggccagatat	caccagaaatg	600
cccgtccag	attccctcag	acctttgcgc	gtcccattat	cggctcstgg	ggt	653

<210> 364
 <211> 401
 <212> DNA
 <213> Homo sapien

<400> 364

actagaggaa	agacgttaaa	ccactctact	accantltgtg	gaactctcaa	aggytaaatg	60
acaasgcca	tgaatgactc	taaaaacaat	atttarattc	aatgggttctg	agacaataaa	120
aaaacaaggt	ggatagatct	agaattgtta	catttttaaga	aaaccatagc	atttgacaga	180
tgagaaagct	caattacaga	tgcaaaagtt	taactaaact	actatagttag	taaagaaata	240
catttcacac	ccttcacata	aattccactat	cttggcttga	ggcactccat	aaaatgtatc	300
acgtgcatag	taaattctta	catttgctat	ggcgttgcac	tggaggactt	ggactgcaac	360
agtggtatgc	guggaaaatg	aaatcttctt	caatggccca	g		401

<210> 365
 <211> 356
 <212> DNA
 <213> Homo sapien

<400> 365

ccagtytcat	atttgggctt	aaaattttcaa	gaagggcact	tcaaatggct	ttgcatttgc	60
atgtttcagt	gctagagcgt	aggaatagac	cctggcgctcc	actgtgagat	gttcttcagc	120
taccagagca	tcaagtctct	gcagcaggtc	attcttgggt	aaagaaatga	cttccacaaa	180
ctctccatcc	cctggctttg	gtttcgggct	tgggttttcg	gcacatctc	cgtaaatggt	240
gactgtcacg	atgtgtatag	tacagtttga	caagcctggg	tccatacaga	ccgctggaga	300
acattcggca	atgtccctct	tgtagccagt	ttctttctctg	agctcccgya	gagcag	356

<210> 366
 <211> 1851
 <212> DNA
 <213> Homo sapien

<400> 366

tcatacccat	cggccagcagc	ggcacggtta	gtcagggtttt	ctgggaatcc	cacatgagta	60
------------	-------------	------------	-------------	------------	------------	----

cttcggtgtt	cttcattctt	cttcantagc	catatattct	ctagctctgg	ctggctgttt	120
tcacttccct	taagcccttg	tgactcttcc	tctgatgtca	gcttcaagtc	ttgttcttga	180
ttgctgtttt	cugaagagat	ttttaacatc	tggttttctt	tgtagtca	aagtaactgg	240
canattacat	gatgatgact	agaaacagca	tactctctgg	ccgtctttcc	agatcttgag	300
aagatcacatc	accattttgc	tcaagtagag	ggctgactat	acttgetgat	ccacaacata	360
cagcaagtat	gagagcagtt	cttccatata	tatccagcgc	atttaaatcc	gcttttttct	420
tgattaaaaa	tttccaccct	tgcctgtttt	gctcatgtat	accgaagtagc	agtgggtgtga	480
ggccatgctt	gttttttgat	tccatatacag	caccgtataa	gagcagtgct	ttggccatta	540
attttctctc	attgttagaca	gcatagtgtc	gagtgggtatt	tccatactca	tcttgaatat	600
ttggatcagt	gccatgttcc	agcaacatta	acgcacactc	ctcttctctgg	cattgtacgg	660
cccttgtcag	agctgtctct	tttttgttgt	caaggacatt	aagttgacat	cgtctgtcca	720
gcacgagttt	tactacttct	gaattcccat	tggcagagggc	cagatgtaga	gcagtcctct	780
tttgcctgtc	ctcttctgtc	acatccgtgt	ccctgagcat	gacgatgaga	tcccttcttg	840
ggactttacc	ccaccaggca	gctctgttga	gcttgtccag	atcttctcca	tggacgtggg	900
acctgggagc	catgagggcg	ctgtcatcgt	agctctccca	agcgactacg	ttgctcttgc	960
cgcctccuctg	caycagggga	agcagtggca	gcaccacttg	cacctcttgc	tcccagcgt	1020
cttcacagag	gagtcgttgt	ggctctccag	agtgcaccag	ttgctcttgc	cgtctccctt	1080
gtccatccag	ggaggaagaa	atgcagga	tgaagagatgc	atgcacgatg	gtatctctct	1140
cagccatcca	acttctggac	agcaggtcac	ttccagcaag	gtggagaaag	ctgtccacct	1200
acagaggtatg	agatccagaa	accacatat	ccattccacaa	acaaacactt	ttcagccaga	1260
ccaggttact	gaatcatgt	catctgcggc	aacatggtgg	aacctaccca	atcacacatc	1320
aagagatgaa	gacactgcag	tatatctgca	caacgtaatc	ctcttcatcc	ataacaaat	1380
aatataattt	tctcttgag	cctataggat	gaactatgaa	ggaagaactc	cccgaggaag	1440
ccagtcgag	agagccaca	ctgaagctct	gtctctagcc	atcagcgcca	cggacaggag	1500
tgtgtttctt	ccccagtgat	gcagcctcaa	gttatcccca	agctgcgcga	gcacacggty	1560
gctcttgaga	aacacccccc	ctcttccggg	ctaucacagg	caagtcaata	aatgtgttaa	1620
tcacataaac	agaattaaaa	gcacagtcac	ataagcatct	cancagacac	agaaaaggca	1680
tttgacaaan	tccagcatcc	ttgtatctat	tgttgcagtc	ctcagaggaa	atgctcttaa	1740
cttttcccca	cttagtatta	tgttggctgt	gggtctgtca	caggtgggtt	ttattacttt	1800
aaggtatgtc	ccctctatgc	ctgtttctgt	gaggggtttt	attctcgtgc	c	1851

<210> 367

<211> 668

<212> DNA

<213> Homo sapien

<400> 367

cttgagcttc	caantaygga	agactggccc	ttacacacgt	caatgtttaa	atgaatgcat	60
ttcaglatctt	tgaagataaa	atttgtatgt	ctataacctg	ttttttgatt	cgtatctcagc	120
accttataag	agcagtgctt	tggccattaa	tttatctctc	atcttagaca	gcrtagtgya	180
gagtgggtatt	tccatactca	tctggaatat	ttggatcagt	gccatgttcc	agcaacatta	240
acgcacattc	atcttccctgg	cattgtacgg	crtgtcagta	ttagacccca	aaacaaatta	300
catatcttag	gaattcaaaa	taacattcca	cagctttcac	caactagtta	tattttaaagg	360
agaaaactta	tttttatgcc	atgtattgaa	atcaaaccca	cttcabgctg	atctagtctgg	420
ctactgcata	cccttatcag	agctgtctct	tttttgttgt	caaggacatt	aagttgacat	480
cgtctgtcca	gcaggagttt	tactacttct	gaattercat	tggcagagggc	cagatgtaga	540
gcagtcctat	gagagtgaga	agacttttta	ggaaattgta	gtgcactagc	cacagccata	600
gcaatgattc	atgttaactgc	aaacactgaa	tagctgtcta	tactcttgcc	ttcaaaaaaa	660
aaaaaa						668

<210> 368

<211> 1512

<212> DNA

<213> Homo sapien

<400> 368

gggtcgccca	gggggagcgt	gggctttcct	cggttgggtg	tgggttttcc	ctgggtgggg	60
tgggtcgggc	trgaatcccc	tgctgggggt	ggcaggtttt	ggctgggatt	gaatttttyc	120
ttcaaacaga	ttggaaaccc	ggagtaccc	gctagtgggt	gaaactgggt	ggtagagcgc	180
atctgttggc	tactactggc	ttctctcggc	tgttaaaagc	agatgggtgg	tgaggttgat	240
tccatgcggg	ctgcttcttc	tgtgaagaag	ccatttcggc	tcaggagcaa	gatgggcaag	300
tgggtgctgc	gttgccttcc	ctgctgcagg	gagagcggca	agagcaacgt	gggcacttct	360
ggagaccacg	acgactctgc	tatgaagaca	ctcaggagca	agatgggcaa	gtgggtgcgc	420
cactgcttcc	cctgctgcag	ggggagtggc	aagagcaacg	tgggcgcttc	tggagaccac	480
gacgagtctg	ctatgaagac	actcagggaac	aagatgggca	agtgggtgctg	ccactgcttc	540
ccctgctgca	gggggagcrg	caagagcaag	gtgggcgctt	ggggagacta	cgatgacagt	600
gccttcatgg	agcccaggta	ccacgtccgt	ggagaagatc	tggacaagct	ccacagagct	660
gcctgttggg	gtaaagtccc	cagaaaggat	ctcatcgtca	tgcctcaggga	cactgacgtg	720
acraaggaag	acaagcmeta	ggggactgct	ctacatctgg	ccctctgcca	tgggaattca	780
gaagtgttaa	aactcctgct	ggcagagcga	tgtcaactta	atgtccttga	caacmetaag	840
aggacagctc	tgaagaaggc	cgtacaatgc	caggaagatg	aatgtgcgtt	aatgttgcgtg	900
gaacatggca	ctgatccaaa	tattccagat	gagtatggaa	ataccactct	rcactaygct	960
rtctayaatg	aagataaatt	aatggccaaa	gcactgctct	tatayggtgc	tgatatcgaa	1020
tcaaaaaaca	aggtatagat	ctactaattt	tactttcaaa	atactgaatc	gcattcattt	1080
taacattcac	gtgtgttaagg	gccagttctc	cgtattttga	agctcaagca	taacttgaat	1140
gaaatatttt	tgaatgaccc	taacttatctm	agactttact	ctaatatttg	ttattttcaa	1200
agaagcattc	gagggtaacg	ttttttttct	ctaaatgcac	ttctggtaaa	tacttttgtt	1260
gaaaacactg	aattttgcaa	aggtataact	tactattttt	caattttctc	ctcctaggat	1320
ttttttcccc	taatgaatgt	aagatggcaa	aatttgcctc	gaaataggtt	ttacatgaaa	1380
actccaaaga	aagttcaaca	tgttccagtg	aatagagatc	ctgcctcctt	ggcaagttcc	1440
tcaaaaaacg	taatagatar	gaggtgatgc	gcctgtcagt	ggcaaggttc	aagatatttc	1500
tgatctcgtg	cc					1512

<210> 369

<211> 1853

<212> DNA

<213> Homo sapien

<400> 369

gggtcgccca	gggggagcgt	gggctttcct	cggttgggtg	tgggttttcc	ctgggtgggg	60
tgggtcgggc	trgaatcccc	tgctgggggt	ggcaggtttt	ggctgggatt	gaatttttyc	120
ttcaaacaga	ttggaaaccc	ggagtaccc	gctagtgggt	gaaactgggt	ggtagagcgc	180
atctgttggc	tactactggc	ttctctcggc	tgttaaaagc	agatgggtgg	tgaggttgat	240
tccatgcggg	ctgcttcttc	tgtgaagaag	ccatttcggc	tcaggagcaa	gatgggcaag	300
tgggtgctgc	gttgccttcc	ctgctgcagg	gagagcggca	agagcaacgt	gggcacttct	360
ggagaccacg	acgactctgc	tatgaagaca	ctcaggagca	agatgggcaa	gtgggtgcgc	420
cactgcttcc	cctgctgcag	ggggagtggc	aagagcaacg	tgggcgcttc	tggagaccac	480
gacgagtctg	ctatgaagac	actcagggaac	aagatgggca	agtgggtgctg	ccactgcttc	540
ccctgctgca	gggggagcrg	caagagcaag	gtgggcgctt	ggggagacta	cgatgacagy	600
gccttcatgg	akccraggta	ccacgtccct	ggagaagatc	tggacaagct	ccacagagct	660
gcctgggtggg	gtaaagtccc	cagaaaggat	ctcatcgtca	tgcctcaggga	cactgacgtg	720
acraaggaag	acaagcmeta	ggggactgct	ctacatctgg	ccctctgcca	tgggaattca	780
gaagtgttaa	aactcctgct	ggcagagcga	tgtcaactta	atgtccttga	caacmetaag	840
aggacagctc	tgaagaaggc	cgtacaatgc	caggaagatg	aatgtgcgtt	aatgttgcgtg	900
gaacatggca	ctgatccaaa	tattccagat	gagtatggaa	ataccactct	rcactaygct	960
rtctayaatg	aagataaatt	aatggccaaa	gcactgctct	tatayggtgc	tgatatcgaa	1020
tcaaaaaaca	agcatggcct	cacaccactg	ytacttggtr	tacatgagca	aatacagcaa	1080
gtsgtgaaat	ttttaatyaa	gaaaaaagcg	aatttcaaat	gcrcctggata	gatatgggaag	1140
raetgctctc	atacttgcgtg	tatgttgggg	atcagcaagt	atagtcaagc	ytctacttga	1200
gcataatrtt	gatgtatcct	ctcaagatct	ggaaagacgg	ccagagagta	tgtcgtttct	1260

agtcacacac	atgtantttg	ccngttactt	tctgactaca	angaaadaca	gattgttaaaa	1320
atctctctcy	aaacacagcau	tccagnacan	gacttaaaagc	tgaatcagac	ggaaagagtca	1380
caaaaggtta	aagyaagtg	aaacagccag	ccagagggcat	ggaaactttt	aaatttaaac	1440
ttttggctta	atgttttttt	tttttgccct	ataaatatta	galagttccca	aatgaaatwa	1500
cctatgagac	caggtcttga	gantcaatag	atctcttttt	taagaatctt	ttggctaggga	1560
gggtgtctc	acgctgttaa	ttccagccac	ttgagagggc	gaggtgggca	gatcargaga	1620
tcaggagatc	gagaccatcc	tgyctaaccr	ggtgaaaccc	cattctctact	aaataatcna	1680
aaacttggct	gggtgtggtg	gcgggtgcct	gtagtcocag	ctactcagga	rgctgaggca	1740
ggagaatggc	atgnaacccg	gaggtggagg	ttgcagtgag	ccgagatccg	ccactacact	1800
ccagcctggg	tgacagagca	agactctgtc	tcaaaaanaa	aaanaaaaaa	aaa	1853

<210> 370

<211> 2184

<212> DNA

<213> Homo sapien

<400> 370

ggcagagga	ttanaaccc	cagcaaaa	ggcatagaag	ggacatacct	taagtaata	60
aaacccacc	ntgacaagcc	cacagcccau	ataatactaa	atgggggaaa	gttagaagca	120
ttccctctga	gaactgcac	aatnaataca	aggaatgctgg	attttgtcaa	atgccttttc	180
tgtgtctgtt	gagatgctta	tgtgactttt	cttttaattc	tgtttatgtg	attatcacat	240
ttattgaact	gacctgttta	gacgggaaga	gctgggggtg	ttctcaggag	ccacogtgtg	300
ctgcggcagc	ttcgggataa	cttgaggctg	catcacagg	gaagaaacac	aytccctgtc	360
gtggcggctg	tggctgagga	cagaguttc	gtgtggcttc	ttgtgagatg	gcttcttcgg	420
ggagtctctt	cttcatagtt	cateratag	gtccagaggg	aaaattatat	tattttgtta	480
tggatgaaga	gtattacgtc	gtgcagatat	actgcagtg	cttcactctc	tgtgtgtga	540
ttgggttagg	tcacccatgt	tgcgcagat	paratgatct	cagtaactgt	gtctggctga	600
aaagtgtttg	tttgtgaatg	gatattgtgg	tttcgggac	tcactcctct	tgggtggaca	660
gctttctcca	ccttgcctgg	agtgcctgc	tgtccagaag	tttgatggct	gaggagtata	720
ccatcgtgca	tgcattcttc	atttctctga	tttcttctc	cctggatgga	cagggggagc	780
ggcaagagca	acgtcgggca	ttctggagac	cacaaagact	cctctgtgaa	gacgcttggg	840
agcaagaggt	gcaagtgggt	ctgccaactg	ttccctctgt	gchggggagc	ggcaagagca	900
acgtggctgc	ttggggagac	taagatgaca	ggccttccat	ggatcccagg	taccacgtcc	960
atggagagga	ttgggacagg	ctccacagag	ctgacctgtg	gggtaaagtc	cccagaaagg	1020
atctcatcgt	catgctcagg	gacagggatg	tgaacaaag	ggacaaagca	aaagaggactg	1080
ctctacactc	ggcctctgcr	aatgggaatc	cagaagttagt	aaactcgtg	ctggacagac	1140
gatgtcaact	taatgacctt	gacaaacaaa	agaggacngc	tcrgucaaag	gcccgtacat	1200
gccaggaaga	tgaatgtgct	ttaatgttgc	tggaaacatgg	cactgatccr	aatattccag	1260
atgagtatgg	aaataccact	ctacactatg	ctgtctacaa	tgaagataaa	ttaatggcca	1320
aagcaactgct	cttatacggg	gttgatatcg	aatcaaaaaa	caagcatggc	ctcacacrac	1380
tgtactctgg	tatacatgag	caaaaacagc	aagtgggtgaa	atttttaatt	aagaaanaag	1440
cgaattttaa	tgcgtgggat	agatatggaa	gaactgctct	catacttgct	gtatgttgtg	1500
gatcagcaag	tatagtcagc	ccctcacttg	agcaaatatg	tgatgtatct	ttccangatc	1560
tggaaagacg	ggcagaggg	atgctgtttc	tagtcatcat	catgtaattt	gcragltact	1620
ttctgactac	aaagaaaaac	agatgtttaa	aatctctctc	gaaaacagca	atccagaaca	1680
agacttaaa	ctgacatcag	aggaagagtc	acaaaggctt	aaagggaagt	aaaacagcca	1740
gccagagggc	tggaaacttt	taaatlttaa	cttttgggtt	aatgtctttt	ttttttgctt	1800
taataataat	agatagcccc	aatgaatw	acctatgaya	ctaggctttg	agaatcaata	1860
gatctttttt	ttaaagaact	tttggttagg	agcgggtgtc	cacgcttgta	attccagcac	1920
cttgagaggg	tgaagtgggc	agatcacag	atcaggagat	cagagaccat	ctggctaaca	1980
cgggtgaacc	ccatctctac	taaaataaca	aaaacttagc	tgggtgtggg	ggcgggtgct	2040
tgtagctcca	gctactcagg	argctgaggg	aggagaatgg	catgaacccg	ggaggtggag	2100
gttgagtgga	gccgagatcc	gccactacac	ttcagcctgg	gtgacagagc	aaagactctgt	2160
ctcaaaaaaa	aaaaaanaaa	aaaa				2184

<210> 371
 <211> 1855
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(1855)
 <223> n = A,T,C or G

<400> 371
 tgcacgcacg ggcacgtgtc tgtgccacgt acactgacgc cccctgagat gtgcacgcg 60
 caccgcgcacg ttgcacgcgc ggcacgtgtc tggctggcct gtacacgcctt gcacgcgcac 120
 gccgcccccg cataaccgtc agactggcct gtaacggctt gcaggcgacac gccgcacgcg 180
 cgtaacggct tggctggcct gtaacggctt gcaactgcat gctgcacgcg cgttaacggc 240
 ttggctggca tgtagcgcgt tggctggcct ttgcatttct tgcctggctk ggcgttgkty 300
 tcttggattg acgcttcttc cttggatkgc cgtttcctcc ttggatkgac gtttctytyt 360
 tgcgcttctt ttgctggcct tgacctttty tctgctgggt tgggcttctt tttggggtgg 420
 gctggggtgt ttctccgggg gggktygcct tctctggggt gggcgtgggk cggccccagg 480
 gggcgtgggc ttctccgggg tgggtgtggg tttctctggg gtggggtggg ctgtgctggg 540
 atccccctgc tggggttggc agggatctgc ttttctcttc aaacagattg gaaacccgga 600
 gtaacntgct agttggcgaa actggttggg agacgcgac tgcctggtact actgttcttc 660
 ctggctgtta aaagcagatg gtggctgggg ttgattcaat gccggctgct tcttctgtga 720
 agaagrcatt tggcttccgg agcaagatgg gcaactgtgt cggcactgct tccctgtctg 780
 caggggggagc ggcagagagc acgtgggctc ttttggagac cacaacgact cctctgtgaa 840
 gacgcttggg agcaagaggt gcaagtgtgt ctgcccactg ctccccctgc tgcaggggag 900
 cggcaagagc aactgtggkcg cttggggaga ctargatgac agcgccttca tggakccag 960
 gtaaccacgt cttggagagc atctggacaa gctccacaga gctgccttgg ggggtaaaag 1020
 cccragaaag gactctcatc tcatgctcag ggaactgag gtgaaccaag cggacaagca 1080
 aaagaggact gctctacatc tggcctctgc caatgggaat tcagaagtgg taaaactcgt 1140
 gctggacagc cgtatgtcac ttaatgtcct tgacaacaaa aggaggacag ctctgacaaa 1200
 ggcgctacaa tggcagggaag atgaatgtgc gttaatgttg ctggaacatg gactgatcc 1260
 aaatatctcc gatyagtctg gaaataccac tctacactat gctgtctaca atgaagataa 1320
 attaatggcc aaagactgc tcttatacgg tgcctgcttc gaatacaaaa acaaggtata 1380
 gatctactaa ttttatcttc aaaaatactg aatgcattcc ttttaacatt gacgtgtgta 1440
 agggccagtc ttccgtatct ggaagctcaa gcatnacttg aatgaaaaata ttttgaatat 1500
 acctaatat ctaagarttt attttaataa ttghtatttt caaagaagca ttagagggtg 1560
 cagttttttc tttttaaatt cacttntggc aaatactttt gttgaaazca ctgaatttgt 1620
 aaaaggtaat acttactatt tttaaatctt tccctcctag gatttttttc ccttaactga 1680
 tgaagatgg caaaatttgc cctgaatatg gttttacatg aaaactccaa gaaaggtcaa 1740
 acatgtttca gtgaatagag atcctgctcc ttgggcaagt tcttaaaaaa cagttaatga 1800
 tacgaggrrg tgcgctgtgc agcggcaagg ttttaagatat ttctgatctc gtgccc 1855

<210> 372
 <211> 1059
 <212> DNA
 <213> Homo sapien

<400> 372
 gcaacgtggg cacttctgga gacacaaag actcctctgt gaagangctt gggagcaaga 60
 ggtgcaagtg gtgctgccc cttgcttccc tgcctgaggg gaggcgcaag agcaacgtgg 120
 gcgcttgrgg agactmcgat gacagygcc tcatggagcc caggtaaccac gtcgctggag 180
 aagatctgga caagctccac agagctgccc tgggtggggtt aagtcctccag aaaggatctc 240
 atcgtcatgc tcagggaac tgaagtgaac nagarggaca agcaaaagag gactgctcta 300
 catctggcct ctgccaatgg gaattcagaa gtaglaaaac tcttgcctga cagacgatgt 360

caacttaattg	tacttgacua	caaaaaggagg	acagctctga	yaaaggccgt	acaatgccag	420
gaagatgaat	gtgcgttaat	gttgcgtgaa	catggcaactg	atccaatat	tccagatqag	480
tatggaaata	ccacuctrea	ctaygctrtc	tayaatgaag	ataaatcaat	ggccaaagca	540
ctgctcttat	aygggtgctga	tatcgaatca	aaaaacnaag	tatagatcta	ctaacttlat	600
cttcanaata	ctgaatgca	ttcattttta	catlgacgtg	tgttaagggtc	agtcttccgt	660
atttgggaagc	tcaagcataa	cttgaatgaa	aatacttttga	aatgacctaa	ttatctaaga	720
ctttattttta	aataatgtta	tttccaaaga	agcatttagag	ggcacagtct	ttttttttta	780
aatgcacttc	tggtaaatat	tttctgttga	aaactgaat	ttgtaaaagg	caatacttac	840
tattttttcaa	tttttccctc	ctaggatttt	tttcccttaa	tgaatgttaag	atggcaaaat	900
ttgcccttga	ataggttttta	catgaaaact	ccaagaaaag	ctcaucatgt	tccagtgaat	960
agagatcctg	ctcctttggc	aagtctctaa	aaaacagtta	tagatcacgg	gtgatgcgcc	1020
tgtcagtggtc	aaggttttaag	atatcttctga	tctcgtgcc			1059

<210> 373

<211> 1155

<212> DNA

<213> Homo sapien

<400> 373

atgggtgggtg	aggttgattc	catgccgggt	gcctcttctg	tgaagaagcc	atttgggtctc	60
aggagcaaga	tgggcnagtg	gtgctgcccgt	tgcttccctt	gctgcagggg	gagcggaag	120
agcaacgtgg	gcacttctgg	agaccacga	gactctgcta	tgaagacact	caggagcag	180
atgggcaagt	gggtgcggcca	ctgcttcccc	tgtgcaagg	ggagtggcaa	gagcaacgtg	240
ggcgcttctg	gagaccacga	cgactctgct	atgaagacac	tcaagaaaca	gatgggcaag	300
tgggtgctgcc	actgcttccc	ctgctgacgg	gggagcggca	agagcaaggt	gggcgcttgg	360
ggagactacg	atgacagtgc	cttcatggag	ccaggttacc	actcctgtgg	agagatctcg	420
gacaagctcc	acagagctgc	ctgggtgggt	aaagtcccc	gaaaggtatc	catcgtcatg	480
ctcagggaca	ctgacgtgaa	caaggaaggac	aaacaaaga	ggactgctct	acatctggcc	540
tctgccaatg	ggaattcaga	agtagtadaa	ctcctgctgg	acagacgatg	tcaacttaat	600
gtccttgaca	acaaaaagag	pacagctctg	ataaaggcng	tacantgcca	ggaagatgaa	660
tgtgctttaa	tgttctctga	acatggcaat	gatccaaata	tcccagatga	gtatgggaat	720
accactcggc	actacgtat	ctataatgaa	gatanattaa	tggccaaagr	actgctctta	780
tatgggtgctg	atctcgatc	aaaaaacang	catggcctca	caccactgtt	acttgggtgta	840
catgagcaca	aacagcaagt	cgtgaaattt	ttatcaaga	aaanagcgaa	tttaaatgca	900
ctgtagatag	atggaaggac	tgcctctata	cttgcctgat	gttgcggtac	agcaagtata	960
gtcagccttc	tacttgagca	aaatattgat	gtatcttctc	aaagatctatc	tggacagacg	1020
gccagagagt	atgctgtttc	taytcatcat	catgtaatct	gccaqttact	ttctgactac	1080
aaagaaaaac	agatgctaaa	aatctctctc	gaaaacagca	atccagaaaa	tgtctcaaga	1140
accagaaata	ataaa					1155

<210> 374

<211> 2000

<212> DNA

<213> Homo sapien

<400> 374

atgggtgggtg	aggttgattc	catgccgggt	gcctcttctg	tgaagaagcc	atttgggtctc	60
aggagcaaga	tgggcnagtg	gtgctgcccgt	tgcttccctt	gctgcagggg	gagcggaag	120
agcaacgtgg	gcacttctgg	agaccacga	gactctgcta	tgaagacact	caggagcag	180
atgggcaagt	gggtgcggcca	ctgcttcccc	tgtgcaagg	ggagtggcaa	gagcaacgtg	240
ggcgcttctg	gagaccacga	cgactctgct	atgaagacac	tcaagaaaca	gatgggcaag	300
tgggtgctgcc	actgcttccc	ctgctgacgg	gggagcggca	agagcaaggt	gggcgcttgg	360
ggagactacg	atgacagtgc	cttcatggag	ccaggttacc	actcctgtgg	agagatctcg	420
gacaagctcc	acagagctgc	ctgggtgggt	aaagtcccc	gaaaggtatc	catcgtcatg	480
ctcagggaca	ctgacgtgaa	caaggaaggac	aaacaaaga	ggactgctct	acatctggcc	540

tctgccaatg	ggaatccaga	agtagtataa	ctcctgctgg	acagacgatg	tcaacttaat	600
gtcrttgaca	acaaanagag	gacagctctg	ataaaggccg	tacaatgccn	ggaagatgaa	660
tgtgctgtaa	tgttgctgga	acatggcact	gatcccaata	ttccagatga	gtatggaaat	720
accactctgc	actacgctat	ctataatgaa	gataaattaa	tggccaaagc	actgctctta	780
tatggtgctg	atatcgaaac	aaaaaacaag	catggcctca	caccactgtt	acttgggtgta	840
catgagcaaa	aaacgcaagt	cgtgaaattt	ttaatcaaga	aaanagcgaa	tttaaatgca	900
ctggatagat	atggagggac	tgtctctata	cttgctgtat	gttgtggatc	agcaagtata	960
gtcagccttc	tacttgagca	aaacattgat	gtatcttctc	aagatctatc	tggacagacg	1020
gccagagagt	atgctgcttc	tagtcatcat	catgtaattt	gccagttact	ttctgactac	1080
aaagaaaaac	agatgctaaa	aattctcttt	gaaaaacgca	atccagaaac	agacttaaa	1140
ctgacatcag	aggaagagtc	acaaagggtc	aaaggcagtg	aaatagccca	gccagagaaa	1200
atgtctcaag	aaacagaaat	aaataaggat	ggtgatagag	aggttgagga	agaaatgaag	1260
aagcatgaaa	gtaataatgt	gggattacta	gaaacactga	ctaactgggt	cactgctggc	1320
aatgggtgata	atggattaat	tccctcaagg	aagagcagaa	cacctgaaaa	tacgcaattt	1380
cctgacaacg	aaagtgaaag	gtatcacaga	atttgcgaa	tagtctctga	ctacaaagaa	1440
aaacagatgc	caaaatactc	ttctganaac	agcaaccacg	aaacagactt	aaagtggaca	1500
tcagaggaag	agtcacaaag	gcttgagggc	agtgaataat	gccagccaga	gctaganaat	1560
tttatggctn	tcgaagaaat	gaagaaagca	ggaagtactc	atgtcggatt	cccagaaac	1620
ctgactaatg	gtgctactgc	tggcaatggc	gatgatggat	ttaattcctc	aaaggaagagc	1680
agaacacctg	aaagccagca	atttcttgac	actgagaaat	aagagtatcn	cagtgaacga	1740
caaaatgata	ctcagaaagca	atttcttgaa	gaacagaaca	ctggaaatatt	acacagatgag	1800
attctgattc	atgaagaaaa	gcagatagaa	gtggttgaaa	aaatgaattc	tgaagcttct	1860
cttagttgta	agaaagaaaa	agacatcttg	catganaata	gtacgtttgc	ggaaagaaatt	1920
gccctgctaa	gactggagct	agacacaaat	aaacatcaga	gccagctaaa	aaanaaaaaa	1980
aaanaaaaaa	aaaaaanaaa					2000

<210> 375

<211> 2040

<212> DNA

<213> Homo sapien

<400> 375

atgggtgggttg	agggtgattc	catgcccggct	gcccctttctg	tgaagaaagcc	atttgggtctc	60
aggagcacaag	tgggcaagtg	gtgctgcccgt	tgcttccccc	gctgcaggga	gagcggcaag	120
agcaacgtgg	gcacttcttg	agaccacgac	gactctgcta	tgaagacact	caggagccag	180
atgggcaaat	ggtgcccgcna	ctgcttcccc	tgtgacaggg	ggagtggcaa	gagcaacgtg	240
ggcgtcttctg	gagacacaga	cgactctgct	atgaagacac	tcaggaaaca	gahgggcaag	300
tgggtgctgcc	artgcttccc	ctgctgcagg	gggagcggca	agagcaagggt	ggcgccttgg	360
ggagactlacg	atgacagtgc	cttcatggag	cccagggtacc	acgtccgtgg	agaaagatctg	420
gacaagctcc	acagagctgc	ctgggtgggt	aaagtcccca	gaaaggatct	catcgtcatg	480
ctcagggaca	ctgacgtgaa	caagaaaggac	aagcaaaaag	ggactgctct	acatctggcc	540
tctgccaatg	ggaaattcaga	agtagtataa	ctcctgctgg	acagacgatg	tcaacttaat	600
gtccttgaca	acaaaaagag	gacugctctg	ataaaggccg	tacaatgccn	ggaagatgaa	660
tgtgctgtaa	tgttgctgga	acatggcact	gatccaaata	ttccagatga	gtatggaaat	720
accactctgc	actacgctat	ctataatgaa	gataaattaa	tggccaaagc	actgctctta	780
tatgggtgctg	acatcgaaac	aaanaacaag	catggcctca	caccactglt	acttgggtgta	840
catgagcaaa	aaacagcaagt	cgtgaaattt	ttaatcaaga	aaanagcgaa	cttaaatgca	900
ctggatagat	atggagggac	tgtctctata	cttgctgtat	gttgtggatc	agcaagtata	960
gtcagccttc	tacttgagca	aaatattgat	gtatcttctc	aagatctatc	tggacagacg	1020
gccagagagt	atgctgttct	tagtcatcat	catgtaattt	gccagttant	ttctgactac	1080
aaagaaaaac	agatgctaaa	aattctcttt	gaaaacagca	atccagaaca	agacttaaa	1140
ctgacatcag	aggaagagtc	acaaaggttc	aaaggcagtg	aaaatagcca	gccagagaaa	1200
atgtctcaag	aaacagaaat	aaataaggat	ggtgatagag	aggttgagga	agaaatgaag	1260
aagcatgaaa	gtaataargt	gggattacta	gaaaacctga	ctaactgggt	cactgctggc	1320
aatgggtgata	atggattttaa	tccctcaagg	aagagcagaa	cacttgaaaa	cagcaatttt	1380

```

cctgacaacg aaagtgaaga gtatcacaga atttgcgaat taqtttctga ccacaaagaa 1440
aaacagatgc caaataactc ttctgaagac agcaaccacg aacaagactt aaagctgaca 1500
tcagagggaag agtcacaaag gtttgagggc agtganaatg gccagccaga gaaaagatct 1560
caagaaccog aaataaataa ggttggtgat agagagctag aaaattttat ggctatcga 1620
gaatgaaga agracggaag tactcatgtc ggattccag aaaaacctgac taatgggtgcc 1680
actgctggca atgggtgatga tggattaatt cctccaagga agagcagaac acctgaaagc 1740
cagcaatttc ctgacactga gaatgaagag tatcacagt acgaacaaaa tgatactcag 1800
aagcaatttt gtgaagaaca gaacactgga atattacacg atgagattct gattcatgaa 1860
gaaaagcaga tagaagtggc tgaaaaaatg aattctgagc ttctctcttag ttgtaagaaa 1920
gaaaaagaca tcttgratga aaatagtarg ttgcgggaag aaattgcat gctagagctg 1980
gagctagaca caatgaaca tcagagccag ctaaaaaaa aaaaaaaa aaaaaaaa 2040

```

<210> 376

<211> 329

<212> PRT

<213> Homo sapien

<400> 376

```

Met Asp Ile Val Val Ser Gly Ser His Pro Leu Trp Val Asp Ser Phe
 1           5           10           15
Leu His Leu Ala Gly Ser Asp Leu Leu Ser Arg Ser Leu Met Ala Glu
 20           25           30
Glu Tyr Thr Ile Val His Ala Ser Phe Ile Ser Cys Ile Ser Ser Ser
 35           40           45
Leu Asp Gly Gln Gly Glu Arg Gln Glu Gln Arg Gly His Phe Trp Arg
 50           55           60
Pro Gln Arg Leu Leu Cys Glu Asp Ala Trp Glu Gln Glu Val Gln Val
 65           70           75           80
Val Leu Pro Leu Leu Pro Leu Leu Gln Gly Ser Gly Lys Ser Asn Val
 85           90           95
Val Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe Met Asp Pro Arg Tyr
100          105          110
His Val His Gly Glu Asp Leu Asp Lys Leu His Arg Ala Ala Trp Trp
115          120          125
Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met Leu Arg Asp Thr Asp
130          135          140
Val Asn Lys Arg Asp Lys Gln Lys Arg Thr Ala Leu His Leu Ala Ser
145          150          155          160
Ala Asn Gly Asn Ser Glu Val Val Lys Leu Val Leu Asp Arg Arg Cys
165          170          175
Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr Ala Leu Thr Lys Ala
180          185          190
Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met Leu Leu Glu His Gly
195          200          205
Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr
210          215          220
Ala Val Tyr Asn Glu Asp Lys Leu Met Ala Lys Ala Leu Leu Leu Tyr
225          230          235          240
Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly Leu Thr Pro Leu Leu
245          250          255
Leu Gly Ile His Glu Gln Lys Gln Gln Val Val Lys Phe Leu Ile Lys
260          265          270
Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr Gly Arg Thr Ala Leu
275          280          285
Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile Val Ser Pro Leu Leu

```

290						295						300					
Glu	Gln	Asn	Val	Asp	Val	Scr	Ser	Gln	Asp	Leu	Glu	Arg	Arg	Pro	Glu		
305						310						315					
Ser	Met	Leu	Phe	Leu	Val	Ile	Ile	Met									
					325											320	

```
<210> 377
<211> 148
<212> PRT
<213> Homo sapien
```

```
<220>
<221> VARIANT
<222> {1}...{148}
<223> Xaa = Any Amino Acid
```

[illegible]

```
<210> 378
<211> 1719
<212> PRT
<213> Homo sapien
```

	<400> 378														
Met	Val	Val	Glu	Val	Asp	Ser	Met	Pro	Ala	Ala	Ser	Ser	Val	Lys	Lys
1				5					10					15	
Pro	Phe	Gly	Leu	Arg	Ser	Lys	Met	Gly	Lys	Trp	Cys	Cys	Arg	Cys	Phe
			20					25					30		
Pro	Cys	Cys	Arg	Glu	Ser	Gly	Lys	Ser	Asn	Val	Gly	Thr	Ser	Gly	Asp
		35					40					45			
His	Asp	Asp	Ser	Ala	Met	Lys	Thr	Leu	Arg	Ser	Lys	Met	Gly	Lys	Trp
	50					55					60				
Cys	Arg	His	Cys	Phe	Pro	Cys	Cys	Arg	Gly	Ser	Gly	Lys	Ser	Asn	Val
65					70					75				80	
Gly	Ala	Ser	Gly	Asp	His	Asp	Asp	Ser	Ala	Met	Lys	Thr	Leu	Arg	Asp

				85					90				95		
Lys	Met	Gly	Lys	Trp	Cys	Cys	His	Cys	Phe	Pro	Cys	Cys	Arg	Gly	S r
				100					105				110		
Gly	Lys	Ser	Lys	Val	Gly	Ala	Trp	Gly	Asp	Tyr	Asp	Asp	Ser	Ala	Phe
		115						120					125		
Met	Glu	Pro	Arg	Tyr	His	Val	Arg	Gly	Glu	Asp	Leu	Asp	Lys	Leu	His
		130					135					140			
Arg	Ala	Ala	Trp	Trp	Gly	Lys	Val	Pro	Arg	Lys	Asp	Leu	Ile	Val	Met
				145			150				155				160
Leu	Arg	Asp	Thr	Asp	Val	Asn	Lys	Lys	Asp	Lys	Gln	Lys	Arg	Thr	Ala
				165					170						175
Leu	His	Leu	Ala	Ser	Ala	Asn	Gly	Asn	Ser	Glu	Val	Val	Lys	Leu	Leu
			180					185						190	
Leu	Asp	Arg	Arg	Cys	Gln	Leu	Asn	Val	Leu	Asp	Asn	Lys	Lys	Arg	Thr
		195					200					205			
Ala	Leu	Ile	Lys	Ala	Val	Gln	Cys	Gln	Glu	Asp	Glu	Cys	Ala	Leu	Met
		210					215								220
Leu	Leu	Glu	His	Gly	Thr	Asp	Pro	Asn	Ile	Pro	Asp	Glu	Tyr	Gly	Asn
		225				230					235				240
Thr	Thr	Leu	His	Tyr	Ala	Ile	Tyr	Asn	Glu	Asp	Lys	Leu	Met	Ala	Lys
				245					250						255
Ala	Leu	Leu	Leu	Tyr	Gly	Ala	Asp	Ile	Glu	Ser	Lys	Asn	Lys	His	Gly
			260					265						270	
Leu	Thr	Pro	Leu	Leu	Leu	Gly	Val	His	Glu	Gln	Lys	Gln	Gln	Val	Val
		275					280						285		
Lys	Phe	Leu	Phe	Lys	Lys	Lys	Ala	Asn	Leu	Asn	Ala	Leu	Asp	Arg	Tyr
		290					295				300				
Gly	Arg	Thr	Ala	Leu	Ile	Leu	Ala	Val	Cys	Cys	Gly	Ser	Ala	Ser	Ile
		305				310					315				320
Val	Ser	Leu	Leu	Leu	Glu	Gln	Asn	Ile	Asp	Val	Ser	Ser	Gln	Asp	Leu
				325					330					335	
Ser	Gly	Gln	Thr	Ala	Arg	Glu	Tyr	Ala	Val	Ser	Ser	His	His	His	Val
			340					345						350	
Ile	Cys	Gln	Leu	Leu	Ser	Asp	Tyr	Lys	Glu	Lys	Gln	Met	Leu	Lys	Ile
		355					360					365			
Ser	Ser	Glu	Asn	Ser	Asn	Pro	Glu	Asn	Val	Ser	Arg	Thr	Arg	Asn	Lys
		370				375					380				
Pro	Arg	Thr	His	Met	Val	Val	Glu	Val	Asp	Ser	Met	Pro	Ala	Ala	Ser
		385			390						395				400
Ser	Val	Lys	Lys	Pro	Phe	Gly	Leu	Arg	Ser	Lys	Met	Gly	Lys	Trp	Cys
				405					410					415	
Cys	Arg	Cys	Phe	Pro	Cys	Cys	Arg	Glu	Ser	Gly	Lys	Ser	Asn	Val	Gly
			420					425						430	
Thr	Ser	Gly	Asp	His	Asp	Asp	Ser	Ala	Met	Lys	Thr	Leu	Arg	Ser	Lys
		435					440							445	
Met	Gly	Lys	Trp	Cys	Arg	His	Cys	Phe	Pro	Cys	Cys	Arg	Gly	Ser	Gly
		450				455						460			
Lys	Ser	Asn	Val	Gly	Ala	Ser	Gly	Asp	His	Asp	Asp	Ser	Ala	Met	Lys
		465			470					475					480
Thr	Leu	Arg	Asn	Lys	Met	Gly	Lys	Trp	Cys	Cys	His	Cys	Phe	Pro	Cys
				485					490					495	
Cys	Arg	Gly	Ser	Gly	Lys	Ser	Lys	Val	Gly	Ala	Trp	Gly	Asp	Tyr	Asp
			500					505						510	
Asp	S r	Ala	Phe	Met	Glu	Pro	Arg	Tyr	His	Val	Arg	Gly	Glu	Asp	Leu
		515					520						525		

Asp Lys Leu His Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp
 530 535 540
 Leu Ile Val Met Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln
 545 550 555 560
 Lys Arg Thr Ala Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val
 565 570 575
 Val Lys Leu Leu Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn
 580 585 590
 Lys Lys Arg Thr Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu
 595 600 605
 Cys Ala Leu Met Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp
 610 615 620
 Glu Tyr Gly Asn Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys
 625 630 635 640
 Leu Met Ala Lys Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys
 645 650 655
 Asn Lys His Gly Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys
 660 665 670
 Gln Gln Val Val Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala
 675 680 685
 Leu Asp Arg Tyr Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly
 690 695 700
 Ser Ala Ser Ile Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser
 705 710 715 720
 Ser Gln Asp Leu Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser
 725 730 735
 His His His Val Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln
 740 745 750
 Met Leu Lys Ile Ser Ser Glu Asn Ser Asn Pro Gln Gln Asp Leu Lys
 755 760 765
 Leu Thr Ser Glu Glu Glu Ser Gln Arg Phe Lys Gly Ser Glu Asn Ser
 770 775 780
 Gln Pro Glu Lys Met Ser Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp
 785 790 795 800
 Arg Glu Val Glu Glu Glu Met Lys Lys His Glu Ser Asn Asn Val Gly
 805 810 815
 Leu Leu Glu Asn Leu Thr Asn Gly Val Thr Ala Gly Asn Gly Asp Asn
 820 825 830
 Gly Leu Ile Pro Gln Arg Lys Ser Arg Thr Pro Glu Asn Gln Gln Phe
 835 840 845
 Pro Asp Asn Glu Ser Glu Glu Tyr His Arg Ile Cys Glu Leu Val Ser
 850 855 860
 Asp Tyr Lys Glu Lys Gln Met Pro Lys Tyr Ser Ser Glu Asn Ser Asn
 865 870 875 880
 Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Leu
 885 890 895
 Glu Gly Ser Glu Asn Gly Gln Pro Glu Leu Glu Asn Phe Met Ala Ile
 900 905 910
 Glu Glu Met Lys Lys His Gly Ser Thr His Val Gly Phe Pro Glu Asn
 915 920 925
 Leu Thr Asn Gly Ala Thr Ala Gly Asn Gly Asp Asp Gly Leu Ile Pro
 930 935 940
 Pro Arg Lys Ser Arg Thr Pro Glu Ser Gln Gln Phe Pro Asp Thr Glu
 945 950 955 960
 Asn Glu Glu Tyr His Ser Asp Glu Gln Asn Asp Thr Gln Lys Gln Phe

	965	970	975
Cys Glu Glu Gln Asn Thr Gly Ile Leu His Asp Glu Ile Leu Ile His			
	980	985	990
Glu Glu Lys Gln Ile Glu Val Val Glu Lys Met Asn Ser Glu Ile Ser			
	995	1000	1005
Leu Ser Cys Lys Lys Glu Lys Asp Ile Leu His Glu Asn Ser Thr Leu			
	1010	1015	1020
Arg Glu Glu Ile Ala Met Leu Arg Leu Glu Ile Asp Thr Met Lys His			
	1025	1030	1035
Gln Ser Gln Leu Pro Arg Thr His Met Val Val Glu Val Asp Ser Met			
	1045	1050	1055
Pro Ala Ala Ser Ser Val Lys Lys Pro Phe Gly Leu Arg Ser Lys Met			
	1060	1065	1070
Gly Lys Trp Cys Cys Arg Cys Phe Pro Cys Cys Arg Glu Ser Gly Lys			
	1075	1080	1085
Ser Asn Val Gly Thr Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr			
	1090	1095	1100
Leu Arg Ser Lys Met Gly Lys Trp Cys Arg His Cys Phe Pro Cys Cys			
	1105	1110	1115
Arg Gly Ser Gly Lys Ser Asn Val Gly Ala Ser Gly Asp His Asp Asp			
	1125	1130	1135
Ser Ala Met Lys Thr Leu Arg Asn Lys Met Gly Lys Trp Cys Cys His			
	1140	1145	1150
Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Lys Val Gly Ala Trp			
	1155	1160	1165
Gly Asp Tyr Asp Asp Ser Ala Phe Met Glu Pro Arg Tyr His Val Arg			
	1170	1175	1180
Gly Glu Asp Leu Asp Lys Leu His Arg Ala Ala Trp Trp Gly Lys Val			
	1185	1190	1195
Pro Arg Lys Asp Leu Ile Val Met Leu Arg Asp Thr Asp Val Asn Lys			
	1205	1210	1215
Lys Asp Lys Gln Lys Arg Thr Ala Leu His Leu Ala Ser Ala Asn Gly			
	1220	1225	1230
Asn Ser Glu Val Val Lys Leu Leu Leu Asp Arg Arg Cys Gln Leu Asn			
	1235	1240	1245
Val Leu Asp Asn Lys Lys Arg Thr Ala Leu Ile Lys Ala Val Gln Cys			
	1250	1255	1260
Gln Glu Asp Glu Cys Ala Leu Met Leu Leu Glu His Gly Thr Asp Pro			
	1265	1270	1275
Asn Ile Pro Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr Ala Ile Tyr			
	1285	1290	1295
Asn Glu Asp Lys Leu Met Ala Lys Ala Leu Leu Leu Tyr Gly Ala Asp			
	1300	1305	1310
Ile Glu Ser Lys Asn Lys His Gly Leu Thr Pro Leu Leu Gly Val			
	1315	1320	1325
His Glu Gln Lys Gln Gln Val Val Lys Phe Leu Ile Lys Lys Lys Ala			
	1330	1335	1340
Asn Leu Asn Ala Leu Asp Arg Tyr Gly Arg Thr Ala Leu Ile Leu Ala			
	1345	1350	1355
Val Cys Cys Gly Ser Ala Ser Ile Val Ser Leu Leu Leu Glu Gln Asn			
	1365	1370	1375
Ile Asp Val Ser Ser Gln Asp Leu Ser Gly Gln Thr Ala Arg Glu Tyr			
	1380	1385	1390
Ala Val Ser Ser His His His Val Ile Lys Gln L u Leu Ser Asp Tyr			
	1395	1400	1405

Lys Glu Lys Gln Met Leu Lys Ile Ser Ser Glu Asn Ser Asn Pro Glu
 1410 1415 1420
 Gln Asp Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Phe Lys Gly
 1425 1430 1435 144
 Ser Glu Asn Ser Gln Pro Glu Lys Met Ser Gln Glu Pro Glu Ile Asn
 1445 1450 1455
 Lys Asp Gly Asp Arg Glu Val Glu Glu Met Lys Lys His Glu Ser
 1460 1465 1470
 Asn Asn Val Gly Leu Leu Glu Asn Leu Thr Asn Gly Val Thr Ala Gly
 1475 1480 1485
 Asn Gly Asp Asn Gly Leu Ile Pro Gln Arg Lys Ser Arg Thr Pro Glu
 1490 1495 1500
 Asn Gln Gln Phe Pro Asp Asn Glu Ser Glu Glu Tyr His Arg Ile Cys
 1505 1510 1515 152
 Glu Leu Val Ser Asp Tyr Lys Glu Lys Gln Met Pro Lys Tyr Ser Ser
 1525 1530 1535
 Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu Glu Glu
 1540 1545 1550
 Ser Gln Arg Leu Glu Gly Ser Glu Asn Gly Gln Pro Glu Lys Arg Ser
 1555 1560 1565
 Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp Arg Glu Leu Glu Asn Phe
 1570 1575 1580
 Met Ala Ile Glu Glu Met Lys Lys His Gly Ser Thr His Val Gly Phe
 1585 1590 1595 160
 Pro Glu Asn Leu Thr Asn Gly Ala Thr Ala Gly Asn Gly Asp Asp Gly
 1605 1610 1615
 Leu Ile Pro Pro Arg Lys Ser Arg Thr Pro Glu Ser Gln Gln Phe Pro
 1620 1625 1630
 Asp Thr Glu Asn Glu Glu Tyr His Ser Asp Glu Gln Asn Asp Thr Gln
 1635 1640 1645
 Lys Gln Phe Cys Glu Glu Gln Asn Thr Gly Ile Leu His Asp Glu Ile
 1650 1655 1660
 Leu Ile His Glu Glu Lys Gln Ile Glu Val Val Glu Lys Met Asn Ser
 1665 1670 1675 168
 Glu Leu Ser Leu Ser Cys Lys Lys Glu Lys Asp Ile Leu His Glu Asn
 1685 1690 1695
 Ser Thr Leu Arg Glu Glu Ile Ala Met Leu Arg Leu Glu Leu Asp Thr
 1700 1705 1710
 Met Lys His Gln Ser Gln Leu
 1715

<210> 379

<211> 656

<212> PRT

<213> Homo sapien

<400> 379

Met Val Val Glu Val Asp Ser Met Pro Ala Ala Ser Ser Val Lys Lys
 1 5 10 15
 Pro Phe Gly Leu Arg Ser Lys Met Gly Lys Trp Cys Cys Arg Cys Phe
 20 25 30
 Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly Thr Ser Gly Asp
 35 40 45
 His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys Met Gly Lys Trp
 50 55 60

Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val
 65 70 75 80
 Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Asn
 85 90 95
 Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys Cys Arg Gly Ser
 100 105 110
 Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe
 115 120 125
 Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu Asp Lys Leu His
 130 135 140
 Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met
 145 150 155 160
 Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln Lys Arg Thr Ala
 165 170 175
 Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val Val Lys Leu Leu
 180 185 190
 Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr
 195 200 205
 Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met
 210 215 220
 Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn
 225 230 235 240
 Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys Leu Met Ala Lys
 245 250 255
 Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly
 260 265 270
 Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys Gln Gln Val Val
 275 280 285
 Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr
 290 295 300
 Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile
 305 310 315 320
 Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser Ser Gln Asp Leu
 325 330 335
 Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser His His His Val
 340 345 350
 Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln Met Leu Lys Ile
 355 360 365
 Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu
 370 375 380
 Glu Glu Ser Gln Arg Phe Lys Gly Ser Glu Asn Ser Gln Pro Glu Lys
 385 390 395 400
 Met Ser Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp Arg Glu Val Glu
 405 410 415
 Glu Glu Met Lys Lys His Glu Ser Asn Asn Val Gly Leu Leu Glu Asn
 420 425 430
 Leu Thr Asn Gly Val Thr Ala Gly Asn Gly Asp Asn Gly Leu Ile Pro
 435 440 445
 Gln Arg Lys Ser Arg Thr Pro Glu Asn Gln Gln Phe Pro Asp Asn Glu
 450 455 460
 Ser Glu Glu Tyr His Arg Il Cys Glu Leu Val Ser Asp Tyr Lys Glu
 465 470 475 480
 Lys Gln Met Pro Lys Tyr Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp
 485 490 495
 Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Leu Glu Gly Ser Glu

500					505					510					
Asn	Gly	Glu	Pro	Glu	Leu	Glu	Asn	Phe	Met	Ala	Ile	Glu	Glu	Met	Lys
515					520					525					
Lys	His	Gly	Ser	Thr	His	Val	Gly	Phe	Pro	Glu	Asn	Leu	Thr	Asn	Gly
530					535					540					
Ala	Thr	Ala	Gly	Asn	Gly	Asp	Asp	Gly	Leu	Ile	Pro	Pro	Arg	Lys	Ser
545					550					555					
Arg	Thr	Pro	Glu	Ser	Gln	Gln	Phe	Pro	Asp	Thr	Glu	Asn	Glu	Glu	Tyr
565					570					575					
His	Ser	Asp	Glu	Gln	Asn	Asp	Thr	Gln	Lys	Gln	Phe	Cys	Glu	Glu	Gln
580					585					590					
Asn	Thr	Gly	Ile	Leu	His	Asp	Glu	Ile	Leu	Ile	His	Glu	Glu	Lys	Gln
595					600					605					
Ile	Glu	Val	Val	Glu	Lys	Met	Asn	Ser	Glu	Leu	Ser	Leu	Ser	Cys	Lys
610					615					620					
Lys	Glu	Lys	Asp	Ile	Leu	His	Glu	Asn	Ser	Thr	Leu	Arg	Glu	Glu	Ile
625					630					635					
Ala	Met	Leu	Arg	Leu	Glu	Leu	Asp	Thr	Met	Lys	His	Gln	Ser	Gln	Leu
645					650					655					

<210> 380

<211> 671

<212> PRT

<213> Homo sapien

<400> 380

Met	Val	Val	Glu	Val	Asp	Ser	Met	Pro	Ala	Ala	Ser	Ser	Val	Lys	Lys				
1	5			10			15			20			25						
Pro	Phe	Gly	Leu	Arg	Ser	Lys	Met	Gly	Lys	Trp	Cys	Cys	Arg	Cys	Phe				
30					35					40					45				
Pro	Cys	Cys	Arg	Glu	Ser	Gly	Lys	Ser	Asn	Val	Gly	Thr	Ser	Gly	Asp				
50					55					60					65				
His	Asp	Asp	Ser	Ala	Met	Lys	Thr	Leu	Arg	Ser	Lys	Met	Gly	Lys	Trp				
70					75					80					85				
Cys	Arg	His	Cys	Phe	Pro	Cys	Cys	Arg	Gly	Ser	Gly	Lys	Ser	Asn	Val				
90					95					100					105				
Gly	Ala	Ser	Gly	Asp	His	Asp	Asp	Ser	Ala	Met	Lys	Thr	Leu	Arg	Asn				
110					115					120					125				
Lys	Met	Gly	Lys	Trp	Cys	Cys	His	Cys	Phe	Pro	Cys	Cys	Arg	Gly	Ser				
130					135					140					145				
Gly	Lys	Ser	Lys	Val	Gly	Ala	Trp	Gly	Asp	Tyr	Asp	Asp	Ser	Ala	Phe				
150					155					160					165				
Met	Glu	Pro	Arg	Tyr	His	Val	Arg	Gly	Glu	Asp	Leu	Asp	Lys	Leu	His				
170					175					180					185				
Arg	Ala	Ala	Trp	Trp	Gly	Lys	Val	Pro	Arg	Lys	Asp	Leu	Ile	Val	Met				
190					195					200					205				
Leu	Arg	Asp	Thr	Asp	Val	Asn	Lys	Lys	Asp	Lys	Gln	Lys	Arg	Thr	Ala				
210					215					220					225				
Leu	His	Leu	Ala	Ser	Ala	Asn	Gly	Asn	Ser	Glu	Val	Val	Lys	Leu	Leu				
230					235					240					245				
Leu	Asp	Arg	Arg	Cys	Gln	Leu	Asn	Val	Leu	Asp	Asn	Lys	Lys	Arg	Thr				
250					255					260					265				
Ala	Leu	Ile	Lys	Ala	Val	Gln	Cys	Gln	Glu	Asp	Glu	Cys	Ala	Leu	Met				
270					275					280					285				
Leu	Leu	Glu	His	Gly	Thr	Asp	Pro	Asn	Ile	Pro	Asp	Glu	Tyr	Gly	Asn				

225		230		235		240									
Thr	Thr	Leu	His	Tyr	Ala	Ile	Tyr	Asn	Glu	Asp	Lys	Leu	Met	Ala	Lys
			245						250					255	
Ala	Leu	Leu	Leu	Tyr	Gly	Ala	Asp	Ile	Glu	Ser	Lys	Asn	Lys	His	Gly
			260						265					270	
Leu	Thr	Pro	Leu	Leu	Leu	Gly	Val	His	Glu	Gln	Lys	Gln	Gln	Val	Val
		275					280						285		
Lys	Phe	Leu	Ile	Lys	Lys	Lys	Ala	Asn	Leu	Asn	Ala	Leu	Asp	Arg	Tyr
	290					295					300				
Gly	Arg	Thr	Ala	Leu	Ile	Leu	Ala	Val	Cys	Cys	Gly	Ser	Ala	Ser	Ile
305					310						315				320
Val	Ser	Leu	Leu	Leu	Glu	Gln	Asn	Ile	Asp	Val	Ser	Ser	Gln	Asp	Leu
			325						330					335	
Ser	Gly	Gln	Thr	Ala	Arg	Glu	Tyr	Ala	Val	Ser	Ser	His	His	His	Val
			340					345						350	
Ile	Cys	Gln	Leu	Leu	Ser	Asp	Tyr	Lys	Glu	Lys	Gln	Met	Leu	Lys	Ile
		355					360						365		
Ser	Ser	Glu	Asn	Ser	Asn	Pro	Glu	Gln	Asp	Leu	Lys	Leu	Thr	Ser	Glu
	370					375					380				
Glu	Glu	Ser	Gln	Arg	Phe	Lys	Gly	Ser	Glu	Asn	Ser	Gln	Pro	Glu	Lys
385					390					395					400
Met	Ser	Gln	Glu	Pro	Glu	Ile	Asn	Lys	Asp	Gly	Asp	Arg	Glu	Val	Glu
			405						410					415	
Glu	Glu	Met	Lys	Lys	His	Glu	Ser	Asn	Asn	Val	Gly	Leu	Leu	Glu	Asn
		420						425					430		
Leu	Thr	Asn	Gly	Val	Thr	Ala	Gly	Asn	Gly	Asp	Asn	Gly	Leu	Ile	Pro
	435						440					445			
Glu	Arg	Lys	Ser	Arg	Thr	Pro	Glu	Asn	Gln	Gln	Phe	Pro	Asp	Asn	Glu
	450					455					460				
Ser	Glu	Glu	Tyr	His	Arg	Ile	Cys	Glu	Leu	Val	Ser	Asp	Tyr	Lys	Glu
465					470					475					480
Lys	Gln	Met	Pro	Lys	Tyr	Ser	Ser	Glu	Asn	Ser	Asn	Pro	Glu	Gln	Asp
			485						490					495	
Leu	Lys	Leu	Thr	Ser	Glu	Glu	Glu	Ser	Gln	Arg	Leu	Glu	Gly	Ser	Glu
			500					505					510		
Asn	Gly	Gln	Pro	Glu	Lys	Arg	Ser	Gln	Glu	Pro	Glu	Ile	Asn	Lys	Asp
	515						520					525			
Gly	Asp	Arg	Glu	Leu	Glu	Asn	Phe	Met	Ala	Ile	Glu	Glu	Met	Lys	Lys
	530					535					540				
His	Gly	Ser	Thr	His	Val	Gly	Phe	Pro	Glu	Asn	Leu	Thr	Asn	Gly	Ala
545					550					555					560
Thr	Ala	Gly	Asn	Gly	Asp	Asp	Gly	Leu	Ile	Pro	Pro	Arg	Lys	Ser	Arg
			565						570					575	
Thr	Pro	Glu	Ser	Gln	Gln	Phe	Pro	Asp	Thr	Glu	Asn	Glu	Glu	Tyr	His
		580						585					590		
Ser	Asp	Glu	Gln	Asn	Asp	Thr	Gln	Lys	Gln	Phe	Cys	Glu	Glu	Gln	Asn
	595						600					605			
Thr	Gly	Ile	Leu	His	Asp	Glu	Ile	Leu	Ile	His	Glu	Glu	Lys	Gln	Ile
	610					615					620				
Glu	Val	Val	Glu	Lys	Met	Asn	Ser	Glu	Leu	Ser	Leu	Ser	Cys	Lys	Lys
625					630					635					640
Glu	Lys	Asp	Ile	Leu	His	Glu	Asn	Ser	Thr	Leu	Arg	Glu	Glu	Ile	Ala
			645						650					655	
Met	Leu	Arg	Leu	Glu	Leu	Asp	Thr	Met	Lys	His	Gln	Ser	Gln	Leu	
			660					665					670		

<210> 381
 <211> 251
 <212> DNA
 <213> Homo sapien

<400> 381

ggagagagcgt ctgctggggc aggaaggggt ttccctgccc tctcaccctgt cctcaccac	60
ggtaacatgc ttccctcacc ggtatcccaa cccagggggc taccatgac ctclgagggg	120
ccaatatccc agyagaagca ttggggaggt gggggcaggt gaaggaccca ggaactcacc	180
atcctggggc tccaaggcag aggaggggt cctcaagaaq gtccggagga aaatcugtaa	240
caagcagtcg g	251

<210> 382
 <211> 3279
 <212> DNA
 <213> Homo sapien

<400> 382

cttccctgcag ccccccattgt ggtgagggggc acgggagagga acagtgggac: caacatggaa	60
ctgctggagg gtgtraggaa gtgatcgggc tctggggcag ggagggagggg tgggggagtgt	120
cactggggagg ggacatcctg cagaaggtag gaghgagcaa acccccctg caggggagggg	180
gagagccctg cggcaccctg gggagcagag gtagcagrac ctgcccagggc ctggggaggag	240
gggctctggag ggcgtgagga gtagcgggg ggtgcatgg utggagtgg ggaacagggg	300
caggggcggga gntggcctca cacaggggag agagggcccc tctgacggg cctcaactgg	360
gcacacaggag gacactgctt lctctctgag gagttaggg ctgttgatgg tggtaggag	420
aagaaggana gggcctggct caggtgtcca gaggctgtcg ctgggttccc ttggggatca	480
gactgagggg agggaggggg gcaagggtgt ggggggagtg aggatgagga tgacntgggg	540
gtgggtccag gcttgcctcc tgcctggggc ctcaaccagc cccctcaca gctcctggc	600
cctcagttct tccctccac tccctcctcc atctggcctc agtgggtcat tctgatcact	660
gaactgacca taacagctcc tgcctcaggc cctccatggg tcccacatgc cctggggagg	720
ggacatctag tcagagagta gtcctgagga ggtggcctct gcgatgtgac tgtggggggc	780
gcactcctgca gatggctccc gctcctatcc tgcctgacclg tctgcaggga ctgtcctcct	840
ggaccttgcc ccttctgag gagctggacc ctgaggtccc ctcccatag gccaagactg	900
gagccttgtt cctctgttly gactcctgc ccatattctt gtaggagtg gtcttgagg	960
catctctgtc tgttctgag agctgggag tgcctcagt catctgclg cggggtctg	1020
agagatggag ttgctaggc agttattgg gccaatctt ctactgtgt ctccctcct	1080
ttacctttag ggtgattct ggggtccact tgtctgtat ggtgtgctt aggtatcac	1140
atcatggggc cctgagccat gtcctctgc tgaagagct gctgtgtaca ccaaggtgt	1200
gcattaccgg agtgagatca aggaacccat cggagccaac cctgagtyc cctgttccc	1260
ccccacctc tagtcaattt aggtccact cagcttctgg catcatttg ccttcttgg	1320
tgcctggagac ctgaagcttg gaactcacct ggcggaagct cgggctcct gagtctact	1380
gacrtgtgt tcttggtgt gagtccagg ctgctagga aaggaaagg cagacacagg	1440
tgtatgocaa tgtttctgaa elgggtataa ttcgtctc tcttggga cactggctgt	1500
ctctgaagac tctctgctca gtttcagtga ggaacacac aaagacgtg gtgacctgt	1560
tgttctgtgg gtagagagat gggaggggt gggccccc cggagagtg gacagtga	1620
caaggtggac actctctaca gatcactgag gataagctg agccacatg catgaggac	1680
acacacagca aggttgagc tgaacata gcccacgctg tctggggg cctgggaagc	1740
ctagataggg ccgtgagcag aaagagggg aggatctcc latgttgtt aaggagggg	1800
tagggggaga aactggaagc tgattaat cagggaggtt gttcaggct cccaaaccac	1860
cgtcagattt gatgatttcc tggcaggact tacagaaat aagagctat atgttctgt	1920
ttattatgg tttttacatt gataggalac atactgaant cagracacaa aacagatga	1980
tgatctagag tgtggagaa acaggggaaa acttgcaglt acgagagctg gcaacttgc	2040
ttactaaggt tttcagactg gcaggaggtu aaacutatta ggttgagggc cttgtggag	2100
gtagctgac cagctgag:ag aggaactagc caggtggggg ctttccctt tggatgggg	2160

```

gcataatccga cagttattct ctccaaagtgg agacttaagg acagcatata attctccctg 2220
caaggatgta tgaataatag tacaagtaa ttccaaatga ggaagctcac ctgactctta 2280
gtgtccagggt ttttactgg ggggtctgtag gacgagtag gactactga ataattgacc 2340
tgaagtcttc agacttgag ttccttagag ttcaaacaga tacagcatgg tccagagttc 2400
cagatgtaca aaaacaggga ttcatcaaac atcccatctt tagcatgaag ggtctggcat 2460
ggcccaaggc cccaaagtata tcaaggcaat tgggcagAAC atgccaagga atcaaatgtr 2520
atctcccagg agttattcaa gggtagagcc tttacttggg atgtacaggc tttgagcagt 2580
gcagggtctg: tgaagtaaac ttttattgta cggggagatga gggaaaggga gaggatgagg 2640
aagcccccct ggggatttgg tttgggtctg tgatcagggtg gtctatgggg ctatccctac 2700
aaagaagaa: ccaagaaatag gggcacattg aggaatgata ctgagcccaa agagcattca 2760
atcattgttt tatttgcctt ctcttcacac cactgggtgag gaggggatta ccacccctgg 2820
gttatgaaga tggttgaaac cccacacat agcaacggag atatgagctc aacagtttct 2880
tagccataga gattcacagc ccagagcagg aggacgctgc acaccatgca gtagacatg 2940
gggcatgctc tccggattgg tgtgaagaag caagggactgt tagaggcagg ctttatagta 3000
acaagacggg ggggcaaat ctgatttctg tgggggaatg tcatggtctt gctttactaa 3060
gttttgagac tggcaggtag tgaactcat tgggctgaga accttgtgga atgcagctga 3120
ccagctgat agaggaaagta gccaggttgg agcctttctc agtgggtgtg ggacatctct 3180
ggcaagattt tgtggcactc ctggttacag atactggggc agcaaataaa actgactctt 3240
gttttcagac ctttaaaaaa aaaaaaaana aaaggtttt 3279

```

<210> 383

<211> 155

<212> PRT

<213> Homo sapiens

<400> 383

Met Ala Gly Val Arg Asp Gln Gly Gln Gly Ala Arg Trp Pro His Thr
5 10 15

Gly Lys Arg Gly Pro Leu Leu Gln Gly Leu Thr Trp Ala Thr Gly Gly
20 25 30

His Cys Phe Ser Ser Glu Glu Ser Gly Ala Val Asp Gly Ala Gly Gln
35 40 45

Lys Lys Asp Arg Ala Trp Leu Arg Cys Pro Glu Ala Val Ala Gly Phe
50 55 60

Pro Leu Gly Ser Asp Cys Arg Glu Gly Gly Arg Gln Gly Cys Gly Gly
65 70 75 80

Ser Asp Asp Glu Asp Asp Leu Gly Val Ala Pro Gly Leu Ala Pro Ala
85 90 95

Trp Ala Leu Thr Gln Pro Pro Ser Gln Ser Pro Gly Pro Gln Ser Leu
100 105 110

Pro Ser Thr Pro Ser Ser Ile Trp Pro Gln Trp Val Ile Leu Ile Thr
115 120 125

Glu Leu Thr Ile Pro Ser Pro Ala His Gly Pro Pro Trp Leu Pro Asn
130 135 140

Ala Leu Glu Arg Gly His Leu Val Arg Glu
145 150

<210> 384
 <211> 557
 <212> DNA
 <213> Homo sapiens

<400> 384
 ggatcctctt gaggcgccgc ctactactac taaatttcgc gccgcgtcga cgaagaagag 60
 aaagatgtgt ttctgttttgg actctctgtg gtcccttccc atgctgtggg ttctccaaaca 120
 ggggaagggt ccctttttgca ttgccaaagt ccatataccat gaggactact ctaccatggg 180
 tctgcctcct ggccaaagca gctggtttgc aagaatgaaa tgaatgatcc taccagctagg 240
 actcaaccct gaantggaaa gtcttgcact ccuattttgca ggatccgctc gtgcacatgc 300
 ctctgttagg agcagcatcc cuagggacct tggaaacagc tggcactgta aggtgcttgc 360
 tcccaaggac acatcctaaa aggtgttgtc atggtgaaaa cgtcttccct ctttattggc 420
 ccttcttatt tatgtgaacc actgtttgtc tttttttgtc ttttttttaa actgttaagt 480
 tcaacttgta aatggaatc catgcaata aattatgaga ttttttttcc aagtaaaaa 540
 aaaaaaa
 557

<210> 385
 <211> 337
 <212> DNA
 <213> Homo sapiens

<400> 385
 ttcccaggat atgtgcgagg gaagacacat tcactatcct tgaaggggct gattccttta 60
 gtctctctag cagcagatgg gctaggagga agtgacccaa gtggttgact ctatgtgca 120
 tctcaaggcc atctgtgtc ttcgagtang gacacatcat cactcctgca ttgttgatca 180
 aaugtgagg gtgttttccc tccagctaaa agcccttagc aaaaagtcca atagacttag 240
 tatcagacag gtccagtccc cgcaccaaca cctgctgggt cctgtcgtg gtctggatct 300
 atttggccac caattccccc ttttccaat cccggca
 337

<210> 386
 <211> 300
 <212> DNA
 <213> Homo sapiens

<400> 386
 gggcccgcta ccggccragg ccccgccctc cgagtcctcc tcccgaggty cctgcacgca 60
 gcccgctcgg cccagagggt gggcgcgggg ctgctctac cggctggcgg ctgtaacctca 120
 gcgaaccttg ccgaaggct ctagcaaggc cccacggacc ccagccggcg cggcgggcggc 180
 gcggactttg cccggtgtgt gggcgggagc ggaclgcgtc tccgcgagc ggcagcgaag 240
 atgttagcct tcgtcgccag gaccgtggac cgatcccagg gctgltggtt aacctcagcc 300

<210> 387
 <211> 537
 <212> DNA
 <213> Homo sapiens

<400> 387
 gggccgaagt gggcaccagg ggactcttct caggttccct tctcgggtc atcaggctg 60
 cccctctctg tggcatcatg atcagcact atgagttcgg caaaagcttc ttcagaggc 120
 tgaaccaggc ccggttctg gggggctgaa aggggcaagg aggcaggac ccgctctctc 180
 ccacggatgg ggaagaggcc ggaggagacc cagccaaagc ccttttctc agcactgagg 240
 gagggggctt gtctcccttc cctccggcg aaaaagctca gggcagggc gtccctctgg 300


```

ggggcccagc acttctctcag acacaacttc ttcctgctgc tccagtcgtg gggalcaton 360
cttaccnacc ccccaagttc aagaccaaat ctccagctg cccncttcgt gtttccctgt 420
gtttgtgtga gctgggcats tctccaggaa ccaagaaacc ctacgcctgg tgtagtctcc 480
ctgacncttg ttaatttctt aagtctaaag atgatgaact tcaaaaaaaa aaaaaaa 537

```

<210> 388

<211> 520

<212> DNA

<213> Homo sapiens

<400> 388

```

aggataattt ttaaaccaat caaatgaaaa aaacaacaa acaaaaaggg aaatgtcatg 60
tgaggtttaa ccagtttgcg tcccttaat gtgggaaagg ttagaggact actcagact 120
gtttgaagat tgcctctctt acagctcttg agaatttgtt tcttccctt gccagtgaa 180
ggaccccttc cccacatgc cccagccan ccccaagcat ggtcccttg caccagaca 240
ccaggaaact gctacttgtg gacctcaca gtagccaggg gggcttggtt agctcacagg 300
acttccccca cccagagga tttagatccc atactagact catactcaac tcaactaggc 360
tcatactcaa ttgatggta tttagacaatt ccatttcttt ctgggttacta taaacagaaa 420
atcttctctc ttctcattac cagtaaaggc tcttgglato tttctgttgg aatgatttct 480
atgaacttgt cttattttaa tggtagggtt tttttctggt 520

```

<210> 389

<211> 365

<212> DNA

<213> Homo sapiens

<400> 389

```

cgttgccccg gtttyacaga aggaagggcg gagcttattc aaagtctaga gggagtgagg 60
gagtttaaggc tggatttcag atctgcclgg ttuagccgc agtctgcnct ctgctcccc 120
aargactttc caataatct cccagccgc tccagctca ggcgtctag aagcgtcttg 180
aagcctatgg ccagctgtct ttgtgttccc tctacccgc ctgtcctcan agcttagact 240
cccaggaaac ctctcagacta ccttctcttg ccttcagcaa ggggctttgc ccacattctc 300
tgagggtcag tggagagaacc tagactccca ttgctagagg tagaaagggg aagggtgctg 360
gggag 365

```

<210> 390

<211> 221

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> [1]...[221]

<223> n = A,T,C or G

<400> 390

```

tgctctctca tcttgagccc gaattctctg tcaggaaagt ggggatggac cccatctgca 60
tacacggntt ctcatgggtg tggacacat ctgtttggcg ttccaggag gctctgggt 120
gctctanag ttctanenga nctgttgccc cantntgac naaggaaagg cggagcttat 180
tcaaagttca gaggaggtgg agaggttaag gctggatttc a 221

```

<210> 391

<211> 325

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(325)

<223> n = A,T,C or G

<400> 391

```

tggagcaggt cccgaggcct cccatagagc tggggccgac cctgtgncgg tgcangcttt 60
cctctgcycc cagcctggag ctgtccttg catctacca ccatcagncg aggcgagcag 120
tagcragggc actgctgcca acagccagtc cnnatccat catgtacccc ggtgngctct 180
nnauttugat ntrcanagcc ctaccatctn tagttctgt ctcccaccgg ntacccagccc 240
cactgcccag gaatcctaca gcaggtaccc tgtcccagcg tctctacctc ccagtacgat 300
gagacctccg gctactacta tgaacc

```

325

<210> 392

<211> 277

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(277)

<223> n = A,T,C or G

<400> 392

```

atallgctta actccttccct ttctatcttt caacattttc atggmgaaug gttccatctc 60
agtctcactt nggcnagcgg utctactctg agtctcttcc ccggcctgmo ccaatngnaa 120
antaccangc acgcncatgn cttaanaacc nccctggttcn tgggttuntc aatgarctga 180
tgcagtgcac caccctgtcc actacgtgat gctgtaggat taaagtctca cagtggcgcg 240
ctgaggatcc aggcctccgt cctgtgttgc tggggaa

```

277

<210> 393

<211> 566

<212> DNA

<213> Homo sapiens

<400> 393

```

actagtcacg tgtggtggaa ttccgggccc cgtcgacgga caggtcagct gtctggctca 60
gtgatctaca ttctgaagtt gtctgaaat gtcttcacga ttaattccag cctaaacgtt 120
ttgccgggaa cactgcagag acaatgctgt gagtctccaa ccttagccca tctgcgggca 180
gagaaaggtct agttctgtcca ccagcattat catgatctca ggaactggta cttagttaag 240
gaggggtctc gagagatctgt ccccttttaga gacaccttac ttataatgaa gtacttggga 300
gggtggtttt caaaagttag aatgtcctgt attccgatga tcatcctgta aacattttat 360
catttattaa tcatccctgc ctgtgtctat tattatattc atatctctac gctggaaact 420
ttctgectra atgtttacty tgcctttgtt tttagctagt tgtgttgttg aaaaaaaa 480
catctctctg ctgagcttta attttctgct aaagttattt taactctatc aattaaaagc 540
ttttgcctat caaaaaaaan aaaaaa

```

566

<210> 394

<211> 384

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(384)

<223> n = A,T,C or G

<400> 394

```

gaacataacat glccccggcac ctgagctgca gtctgacatu atcgrcatca cgggacctcgc 60
tgcuaatttng gaccggggcna aggcctggact gctggagcgt gtgaaaggagc tacaggccna 120
gcaggaggagc cgggctttta ggagtttta gntgagtgto actgtagacc ccaaatacca 180
tcucaaagatt atcggggagaa agggggggcgt aattaccraa atccggttgg agcatgacgt 240
gaacatccag tttcctgata aggacgatgg gaaaccagcc caggaccaaa ttaacatcac 300
agggtaaggaa aagaacacag aagctgcuag ggatgctata ctgagaattg tgggtgaaat 360
cgagcagatg gtttctgagg acgt

```

384

<210> 395

<211> 399

<212> DNA

<213> Homo sapiens

<400> 395

```

ggcaaaactg tgtgacctca atnagacctc gcagatccaa ggtcaagtat caggaagtga 60
tctgaccttg gactccaaga cctacatcaa cagcctggct atattagatg atgagccagt 120
tatcagaggt ttcatacttg cygaatttgt ggagtctagg gaaatcatgg cctctgaagt 180
attcagctct ttcagtaacc ctgagttctc tatagagttg cctaaccacg gcagaattgg 240
ccagctactt gtctgcaatt gtatcttcaa gaatacctg gccatccctt tgactgacgt 300
caagttctct tgggaagac tgggcattct ctcactacag acctctgacc atgggacggg 360
gcagcctggt gagaccatcc aatcccaat aaatgcac

```

399

<210> 396

<211> 403

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(403)

<223> n = A,T,C or G

<400> 396

```

tggagttntc agtgcaaac aagccataag ctccagtagc aaattactgt ctacacgaaa 60
gacattttca actctgtctc cagctgctga taaaacaaat catgtgttga gcttgactcc 120
agacaaaggac aacctgttcc ttcataactc tctagagaaa aaagaggagt gttagttagt 180
actaaaaaaa gttyatgaat aatctggata tttttctaa aaagattccc tgaacacat 240
taggaaaatg gagggcctta tgatcagaat gctagaatta gtccattgtg ctggaagcagg 300
gtttcagggga yggagtgagg gataaaagaa gyaaaaaag aagagtgaga aaacctattt 360
atcaaaagcag gtgctatcac tcaatgttag gccctgctct ttt

```

403

<210> 397

<211> 100

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(100)

<223> n = A,T,C or G

<400> 397
actagtnacag tgtgggtggag ttgcggggcgg cgtcgcccta naanccatct ctctagcaaa 60
tccatccccg tccctgggtg gtncccgat gactgacaaa 100

<210> 398
<211> 278
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(278)
<223> n = A,T,C or G

<400> 398
gcggcccgct ngacagcagt ttccgcagcg ctgncctcty ggtgggggatg tgcctgcacgc 60
ccacctggac atctggaggt cagcggcctg gatgaaagag cggacttacc ctggggcgct 120
tcactactgt gctcngarcc gtggggagag ctggacggac agcgaggttg acctatcatg 180
ctccggggcgg cccatccacc tgtggcaglt cctcaggag ttgctactca agcccccag 240
ctatggccgc ttcattangt ggtccacaa ggagaagg 278

<210> 399
<211> 298
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(298)
<223> n = A,T,C or G

<400> 399
accggagggtg aggaagcgc cctgggacag anaggatggg tcclyncatt gacnncctcn 60
gggggtgcng catggagcgc atggggcgcg gccctgggcca cggcatggat cagctgggct 120
ccgagatcga ggcgatgggc ctggtcatgy accgcattgg ctccgtggag cgcattgggc 180
ccggcattga ggcgatgggc ccgtgggccc tgcaccacat ggccctccan abtgancgca 240
tggaaccagac catggagcgc attggctctg gcgtggagcn catgggtgccc ggcatggg 298

<210> 400
<211> 548
<212> DNA
<213> Homo sapiens

<400> 400
acatcaacta ctccctcatt ttaaggatat gcagttccct tcateccctt ttccctgcctt 60
gtacatgtac atgtatgaaa tttcctcttc ttaccgaact ctctccacac atcacagggt 120
caaagaacca caactttaga aggttaagag ggcaacctat gaaatgaaat ggtgatttct 180
tgagttctct tttccacgt ttaaggggcc atggcaggac ttayagttgc gagttaagac 240
tgcagagggc tagagaatta ttccatacac gctttgagge caaccatgtc acttatcccg 300
tataccctct caccatcccc ttgtctactc tgatgcccgc aagatgcaac tgggcagcta 360
gttgggcccc taattctggg cctttgttgt ttgttttaac tacttgggca tcccaggag 420
ctttccagtg atctctacc atggggcccc ctcttgggat caagccctc ccaaggccctg 480
tcccagagcc ctctgccc agccaccccg ctgctctgg tgcctagccc tcccatggg 540
agcaggtt 548

<210> 401
 <211> 355
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1) ... (355)
 <223> n = A,T,C or G

<400> 401
 artgtttcca tgttatgttt ctacacattg ctacctnagt gctcctggaa acttagcttt 60
 tgaatgtctc aagtagtcca ccttcattta actctttgaa actgtatcat ctttgccaa 120
 taagagtggc ggcctatttc agctgtcttg acaaaatgac tggutctga cttaacgttc 180
 tataaatgaa tgtgctgaa ccaagtgcac atggtggcgg cgaagaagan aagatgtgt 240
 tttgttttg actctctgtg gtcctttcca atgctgnggg tttccaaaca ggggaagggt 300
 cctttttgca ttgccaagtg ccataacrat gagcactact ctarcatggg tctgc 355

<210> 402
 <211> 407
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1) ... (407)
 <223> n = A,T,C or G

<400> 402
 atggggcaag ctggataaag aaccaagacc cactggagta tgcgtcttc aagaacacca 60
 tctcncatgc ggtggcatat ataggctcaa aataaaggaa tggagaaaaa tttttcaagc 120
 aatggaaaa cagaaaaaag caggtgttgc actcctctt tctgacaaaa cagactatgc 180
 gaataaagat aaaaaagaga aggcatttac aaaggtgtc ctgaccttg ataantctca 240
 ttgcttgata ccaaccggg ctgttttaat tgcacaaacc aaagggttaa tttgtgagg 300
 ttgtgagct tctccctgc agagagtccc tcatctacca aaatttgggt gaggatgaag 360
 gntgatattg ctgacacctc cttttctgaa gtttactca ttccaa 407

<210> 403
 <211> 303
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1) ... (303)
 <223> n = A,T,C or G

<400> 403
 cagtatttct agcunaactg aaaagctagt agcaggcaag tctcaaatcc aggcaccana 60
 tccaaagcaa gagcatggc atggtgaaaa tgcaaaaggc gaatctggcc aatctacaaa 120
 tagagaaacaa gacctactca gtcatgaaca aaagggcaga caccacatg gatctcatgg 180
 gggattggat attgttatta tagagcagga agatgacagt gctcgtcatt tggcaccaca 240
 tcttaacaaac gaccgaaccc cattatllac ataacctcc attcgglaac catgttgaaa 300
 gga 303

<210> 404
 <211> 225
 <212> DNA
 <213> Homo sapiens

<400> 404
 aagtgttaact tttaaaaatt tagtggattt tgaaaattct tagaggaaaag tasaggaaaa 60
 attgttlaaty cactcattta cttttacatg gtgaaggctt tctcttgatc ctacaaacag 120
 acattttcca chcgtgtttc catagttytt aagtgtatca gatgtgttgg gcattgtgaal 180
 ctccaagtcg ctgtgtaata aataaagtar cttkatttca ttcatt 225

<210> 405
 <211> 334
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(334)
 <223> n = A,T,C or G

<400> 405
 gagctgttat actgtgagtt ctactaggaa atcatcaaat ctgagggttg totggaggac 60
 ttcaataaac ctcccccat agtgaatcag ctccaggagg gtccagtcce tctcttact 120
 tcatcccat cccatgccaa aggaagacc tccctccttg gctcacagcc ctctctagge 180
 tcccagtcg ctccaggacc gagggttga tgttttcage tccctccttg ctgtgagtg 240
 ctggtgagggt tgtgcttcca gcttctgtc agtgcttcat ggacagtgc cagcccatgt 300
 cactctccac tctctcanng tggatcccaa cctt 334

<210> 406
 <211> 216
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(216)
 <223> n = A,T,C or G

<400> 406
 ttccataact aatgagggag ttganatnac atnaaccag gaaatgcatt gatctcaany 60
 gaaaacaaac cccaataaac tcggagtggc agactgacaa ctgtgagaca tycatttgct 120
 acnaaacana aatttctatg tgcacccctg tttctaccc tgtgggttat gacaaagaca 180
 actgcaaaag aatnttcaag aaggaggact gccant 216

<210> 407
 <211> 413
 <212> DNA
 <213> Homo sapiens

<400> 407
 gctgacttgc tagtatcatc tgcattcatc gaagvacaaag aacttcatgc cttyactcat 60
 gtaaatgraa taggabttaa aaataaattt gatattacat ggaacacagc aaaaaatatt 120
 gtacaaatatt gccccagtg tcagattcta vacctggcca ctgaggagac aagagttaat 180
 cccagaggtc tatgtcttca tctgttatgg caaatggatg tcatgacagt accttcattt 240

```

ggagaaattgt catttgtcca tctgacagtt gatacttatt cccatttcat atgggcaacc 300
tgccagacag gagaaagtct tcccatgtta aaagacattt attatcttgt ttctctgtca 360
tgaggattcc agaaagattt aaacacagca atgggacagg ttctgtagta aag      413

```

<210> 408

<211> 183

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(183)

<223> n = A,T,C or G

<400> 408

```

ggagctngcc ctraathcct ccatntctat gttancatat ttaatgtctt ctgnaattaa 60
tncftaacta gttatctctt aaagggcten ntaatctcta acagctccct ccathgtgag 120
cattatctct ccagtattcn ccttctnttt catttactcc ttcttggtta cccatgtact 180
ntt      183

```

<210> 409

<211> 250

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(250)

<223> n = A,T,C or G

<400> 409

```

cccacgcatg ataagctctt tatttctgta agtctgtcta ggaatcatc aattctgacg 60
gtgggtttgg ggacrtgaac aaacctcctg caattaatca gctttcagtt tctcccccta 120
gtcctctctt caacaaacata ggaggatcct cccctctctt ctgctcaggg ccttatctag 180
gcttccccagt gccccacagga cagcgtgggc tatgtttaca agccttctt gctggggggg 240
ggcctatgca      250

```

<210> 410

<211> 306

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(306)

<223> n = A,T,C or G

<400> 410

```

ggctgggttt caagaaatgaa atgaatgctt ctacagctag gacttaacct tgaatgggaa 60
agtcttgcaa tcccatctgc aggatccgtc tctgacacat cctctgtaga gagcagcatt 120
cccgggggac ttgggaacag ttggcactgt aaggtgcttg ctccccaaga cacatcttan 180
aaggtgttgt aatggcgaaa accgtctcct tctttattgc ccttctttaa ttatgtgaac 240
nactgattgg ctttttttgn atcttcttta aactggaaag ttcaattgng aaatgaata 300
tctgtc      306

```

<210> 411
 <211> 261
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(261)
 <223> n = A,T,C or G

<400> 411
 agagatattt cttagggttaa agttcataga gtccccatga actatatgac tggccccaca 60
 ggaatctttt tatttaagga ttctgagatt ttgtttgagc aggattagat aaggctgttc 120
 tttaaatgtc tgaatggga cagatttcaa aaaaaaaccc cccaatctag ggtgggaaca 180
 aggaaggaaa gatgtgaata ggctgatggy caaaaaacca atttaccat cagttcnagc 240
 cttctctcaa ggngaggcaa a 261

<210> 412
 <211> 241
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(241)
 <223> n = A,T,C or G

<400> 412
 gtccaatgtt acctgacatt tctacaaac cccattcacc gatgatattcg ttgcccagty 60
 ggaacataac agcctgaatt tggaaaaaat gatttgttt ttgcccagg aactactacg 120
 actgaatttg atggctccac aacataaacc cagtgtaaaa acagaagatg tggagggggg 180
 ctgggagatt tcactgggta cattgaattc ccaaacctac cagcaatta ccagccaac 240
 a 241

<210> 413
 <211> 231
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(231)
 <223> n = A,T,C or G

<400> 413
 aactcttaaa atccaagtga ctcatctgtg tgcctgaatc ctttccactg tctcatctcc 60
 ctcatccaag tctctagtac ctctcttttg ttgtgaaggc taatcaaat gaacacaaaa 120
 aagtttactc tctcatcttg gaacataaaa actctcttct tctctgggtc gagggtccaa 180
 agaatccttg aatcaattct cagatcattg ggyaacaccn atcaggaacc t 231

<210> 414
 <211> 234
 <212> DNA
 <213> Homo sapiens

<400> 414
 actgtccatg aagcaactgg cagaagctgg aggcataaac caccagacac luncagcaag 60
 gntggagctg aaaaacataac ccaactctgtc ctggaggcac tgggaagcct agagaaggct 120
 gtgagccaaag gaggaagggt ctccctttgg catgggatgg ggatgaagta aggaaggagg 180
 ctggaccccc tggagctga ttcacccatgg ggggaggtgt attgaagtc tcca 234

<210> 415
 <211> 217
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> {1}...{217}
 <223> n = A,T,C or G

<400> 415
 gcataggatt aagactgagt atcttttcta cattctttta acttttctaag ggyuacttct 60
 caaaacacag accaggtagc aatctctcac tgccttaagg ntctccccc cactttctca 120
 cacttagcaa tagtagaatt cagtcctact tctgaggcca gaagaatggt tcaaaaaat 180
 antggattat aaaaaataac aattaaggaa aataatc 217

<210> 416
 <211> 213
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> {1}...{213}
 <223> n = A,T,C or G

<400> 416
 atgcatatnt aaagyanact gcttcgnttt tagaagacat ctggncctgct ctctgcatga 60
 gguacagcag taaggtctct tgaattcccag aatcaagaac tctcccttc agactattac 120
 cgaatgcaag gtgggttaatt gaaggccact aattgatgt caaatagaag gttattgact 180
 atattgganc agatggagtc tctactaca aag 213

<210> 417
 <211> 303
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> {1}...{303}
 <223> n = A,T,C or G

<400> 417
 nagtctttag gcccatcagg gaagttcaca ctggagagaa gtcatacaca tqtactgtat 60
 gtggyaagg ctttactctg agttcaatc tcaaggcca tcaagagtc cactctggag 120
 agaagccafa caaatgcant gagtgtggg agagcttcag gagggttcc ctttatcaag 180
 ttcattctagt ggtccacac ggaagagaa cctataaatg tgaatattgt ggggaagggt 240
 tcaatcaag ttcattatct caaatccatc agaaaggncc cagtatanen aauctttta 300
 agt 303

<210> 418
 <211> 328
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(328)
 <223> n = A,T,C or G

<400> 418
 ttctttggcgg tgggtggggca gggacggggac angagtctca ctctgttgcc caggctggag 60
 tgcacaggca tgatctcggc tcaactcaac cctgcctcc catgtccaag cgattcttgc 120
 ggcctcagcct tccctgttgc tagaattaca ggcaactgcc accaacacca gctagttttt 180
 gtatttttag tagagacagg gtctcaccat gttggccagg ctggcttcaa actcctnacc 240
 tcagnggtca ggctgggtct aaactcctga cctcaagtga tutgcccacc tccgctccc 300
 aaagtgtctan gattacaggc cgtgagcc 328

<210> 419
 <211> 389
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(389)
 <223> n = A,T,C or G

<400> 419
 cctcctcaag auggcctgtg gtccgcctcc cggcaaccaa gaagcctgca glgccaatag 60
 acccctgagc catggactgg agcctgaaag gcagcgtaca ccttgcctcc gatcttgctg 120
 ctctgttccct ctctgttggt ccattcctag cacagctgtt gcaactgaggc ttgtgcaggc 180
 cgagcaaggc caagctggct caaagagcaa ccagtcacct ctgccacggt gtgccaggca 240
 ccggttctcc agccaacca ctaactcgtt ccgcgaatg gcacatcagt tcttctaccc 300
 taaggttagg accaaagggc atctgctttt ctgaagctcc ctgctctatc agccatracg 360
 tggcagccac tcnngctgtg toagcggg 389

<210> 420
 <211> 408
 <212> DNA
 <213> Homo sapiens

<400> 420
 gtctctcta actcctgcca gaaacagctc tctcaacat gagagctgca cccctctctc 60
 tggccagggc agcaagcctt agccttggct tcttgtttct gctttttttc tggctagacc 120
 gaagtgtact agcnaaggag ctgaagtttg tgactttggt gtttggcat ggagaccgaa 180
 gtcctcattg cacttttccc actgaccccc taagggatc ctcatggcca caaggatttg 240
 gccactcac ccagctgggc atygagcagc attatgcaat tggagagtat ataagaaaga 300
 gatatagaaa attcttgaat gagtctata aacatgaaca ggttctatct cgaagcacag 360
 aggttgaccg gactttgatg aagtgtctat acnaaccttg caagcccg 408

<210> 421
 <211> 352
 <212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1) ... (352)

<223> n = A,T,C or G

<400> 421

```

gctcaaaaat ctttttactg atnggcctgg ctacacaatc attgactatt acggaggcca 60
gagagagatg aggcctggcc tgggagccct gtgcctctca naagcacatt agattatcca 120
ttcactgaca gaacaggtct ttttgggtc cttctctctc accacnatac acttgcagtc 180
ctccttcttg aagattctct ggucgttgtc ttgtctatac cccacaggtg tgganacaag 240
ggtgcaaacat gaaatttctg ttctgtagca agtgcctgtc tcccaaggtg gctagtctgc 300
cactccagat ttattgggtg ttcttttctt ttgagctcca tgcatttctt gg 352

```

<210> 422

<211> 337

<212> DNA

<213> Homo sapiens

<400> 422

```

atgccacacat gctggcaatg cagcggggcg tccaaggcct gcatatccag cccaagctgg 60
cgaatgacga cggcaaccct tgcocgaagt tgcctatgcc agccgaagcg gtggtrcagg 120
gcgatagcaa ggtgcggcg atcggggcg cgtcaatcct ggccaaggtc agcngl'atc 180
gtgaaatggc agctgtcgaa ttgatctacc cgggttctgg catcgggcg cctaagggct 240
atccgacacc ggtgcacctg gaagccttgc agcagctggg gacgacggcg attcacggac 300
gcttcttccg ccggtacggc tgguctatga aaattat. 337

```

<210> 423

<211> 310

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1) ... (310)

<223> n = A,T,C or G

<400> 423

```

gctcaaaaat ctttttcttg atatggcatg gctacacaaat cattgactat tagaggccag 60
aggagaatga ggccctggct gggagccctg tgcctactan aagcncatta gattatccat 120
tctactgacag aacaggctct ttttgggtcc ttcttctcca ccagatata cttgcagtc 180
tcttctctga agattctctg gcaattgtct ttgtcataac cccacaggtg anaaacnagg 240
gtgcaacatg aatttctctg ttctgtagca gtgcctgtct cacagttgtc aagtcctgcc 300
tccgagttta 310

```

<210> 424

<211> 370

<212> DNA

<213> Homo sapiens

<220>

<221> misc_featur

<222> (1) ... (370)

<223> n = A,T,C or G

<400> 424

```

gctcaaaaat cttcttactg ataggcatgg ctacacaatc attgactatt agaggucaga 60
ggagaaatgag guctggcctg ggagccctgt gctactaga agcacattag attatccatt 120
cactgacaga anaggtcttt tttgggtcct tcttctccac cccgatatac ttgaggtcct 180
ccttcttgaa gattctttgg cagttgtctt tgtctcaacc cccagggtga gaaacatcct 240
ggttgaatct cctggaaact cctcattagg tatgaaatag catgatgcat tgcataaagt 300
caccgaaggty gcaaaagatca caacgctggc cagganaaca ttcattgtga taagcaggac 360
tcggtcgacg
370

```

<210> 425

<211> 216

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(216)

<223> n = A,T,C or G

<400> 425

```

aattgctatn ntttatttct cactcaaaa caattaccac aaaaaaataa tnttaaatga 60
taacaaunca acatcaaggc aaananaaca ggaatggntg actntgcata aatnggcaga 120
anattatcca ttatnttaa ggttgacttc aggttaacag acacagacaa acatgcccag 180
gaggtntctc ggaacgctcg atgtntctct agggagg
216

```

<210> 426

<211> 596

<212> DNA

<213> Homo sapiens

<400> 426

```

cttcagtgga ggataaccct gttgcccgg gcccagggtc tccattaggc cctgattgat 60
tggcagtcag tgatgggaagg gtgttctgat cattccgact gcccaaggc tgcctggcca 120
gctctctgtt ttgctgaggt ggcagtagga cctaatttgt taattaagag cagatggtga 180
gctgtccttg tattttgatt aacctaatgg cctcccagc acgautcggc ttcagctgga 240
gacatcacgg caacttttaa tgaatgatt tgaaggguca ttaagaggca cttccgta 300
ttgggcagtc catctgcact gataactctt tggcagctga gctggtcgga gctgtggccc 360
aaacgcacac ttggcctttg gtcttgagat caaactctca atcttttagt catgcttgag 420
ggtaggatgg cttttcagct ttaaccuaat ttgactgnc ttggaagtgt agccaggaga 480
atacartcat atactcgtgg gcttagaggc cacagucgat gtcatgggc taactgctga 540
gtcccgctgg tcccatccca ggaccttcca tcggcgagta cctgggagcc cgtgct 596

```

<210> 427

<211> 107

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(107)

<223> n = A,T,C or G

<400> 427

```

gaagaattca agttagggtt attcaaaggg ctlaagagga atctanacc caggwccag 60

```

cccgaggagca gccttanaga gctccctgttt gactgcccgg ctccaggy 107

<210> 428
 <211> 38
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(38)
 <223> n = A,T,C or G

<400> 428
 gaacttcma ankangactt tattcactat ttacacatt 38

<210> 429
 <211> 544
 <212> DNA
 <213> Homo sapiens

<400> 429
 ctttgcctgga cggaaataaa gtggacgcaa gcatgacctr ctgatgaggg cgctgcattt 60
 attgaagagc ggcctgcagcc ctgcgggttca gattaaaatc cgagaatcgt atagacgccc 120
 atatccacga actcttgaag gactttctga ttatccaca aaccaaatcat cggcttttcag 180
 tttggatggc ggcctcatcnc ctgtagaacc tgccttggcc gtggctggaa tccactcgtt 240
 gccctccact ccagttacac ctactcacc atcctctcct gllggctctg tgcctgttca 300
 agatactaag cccacatttg agatgcagca gncatctccc ccaattcctc ctgtccatcc 360
 tgatgtgca ttcaaaaaatc tgcctcttla tcatgtcttt gatgttctca tcaagcccac 420
 gagtttagtt caaagcagta ttacgcgatt tcaagagaag ttttttattt ttgctttgac 480
 acctcaacaa gttcagagaga tatgcatatc cggggatttt ttgncagggt gtaggagaga 540
 ttat 544

<210> 430
 <211> 507
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(507)
 <223> n = A,T,C or G

<400> 430
 cttatcncaa tggggctccc aaacttggct gtgcagtggg aactccgggg gaattttgaa 60
 gaacactgac aaccatcttc caccrcgaca ctctgattta attgggctgc agtgagaaca 120
 gagcatcaat ttaaaaagct gccagaaatg ttntcctggg cagcgttgtg atctcttgcn 180
 ccttngtgac ttatgcaat gcatcatgct atttcatacc taatgagggg gttccaggag 240
 attcaaccag gatgtttcta cncctgtggg ttatgacaaa gacaactgcc aaggaatntt 300
 caageaggag gactgcaagt atatcgtggt gyagagaag gacccaaaa agacctgttc 360
 tgcagtgaat tggatctctt aatgtgcttc tagtgggccc agggctcccc gyucaggcct 420
 cattctcttc tggctctcaa tagtcaatga ttgtgtagcc atguctatca gtaaaaaaat 480
 ttttgagcaa aaaaaaaa aaaaaaa 507

<210> 431
 <211> 392

<212> DNA
 <213> Homo sapiens
 <220>
 <221> misc_feature
 <222> (1) ... (392)
 <223> n = A,T,C or G

<400> 431
 gaaatctcag aatggataaa aacaaatgaa gtacaaaata ttcagatctt auctagcgat 60
 aaacaagaaa gcacttctca gggggactta caaatggaaq tacactctan aacctatcat 120
 tatcatggct aatgttgaga ttagcacagg cgtattattt gtacattgca aaacactaga 180
 aagagatggg aaacaaatc cuaggagttt tgtgtgtgga gtccctgggtt ttcacacaga 240
 catcattcca gcattctgag attagggnga ttggggatca ttctggagctt ggaatgttca 300
 acaaaagtga tgttgttagg taaaatgtac aacttctgga tttatgcaga catcgaaggt 360
 gcaatgaatc tggcttttac tctgtgttct ct 392

<210> 432
 <211> 387
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1) ... (387)
 <223> n = A,T,C or G

<400> 432
 ggtatccnta catcaatcaga tatagctgta gtacatgttt tcaattggngt agattaccac 60
 aatgcaagg caacatgtgt agatctcttg tcttattctt ttgtctataa tactgtattg 120
 ngtagtccaa gctctcggna gtccagccac tgggaacat gctcccttta gatcaacctc 180
 gtggaacctn ttgtcgnatt gtctgaacty tagngccctg tatcttctct ctgtctgnga 240
 attctgtctc tctcggggua tttccttgng atgcagaagg ccaccacaca gatgacagca 300
 ctctgaattt ntccaatcac agctgcgatt aagacatact gaaatcgtac aggaacggga 360
 acaacgtata gaacactgga gtccctt 387

<210> 433
 <211> 281
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1) ... (281)
 <223> n = A,T,C or G

<400> 433
 ttcaactagc anagaaact gcttcaggga gctgtaaatg aaaggcttcc acgagtttat 60
 ctgattcaag aacactaagg gaggymcaag gctagaagcc gcaggatgtc tacactatag 120
 caggcncctat ttgggttggc tggaggagct gtggaaaca tggagagatt ggugctggag 180
 atcgccgtgg ctcttctctn ttgntattac accagnaggy ntctctgtnt gcccactggg 240
 tnnaaacccg ntatacaata atgatagaat aggaacacaca t 281

<210> 434
 <211> 484

<212> DNA

<213> Homo sapiens

<400> 434

```

ttcttcaaatat aguatcttagt gctcagtcct tactgagtao tctttctctc ccttcctctg 60
aatctaatctt tttcaacttg caabctgcaa ggattacaca tttcactgtg atgtatatctg 120
tgctcgcaaaa aaaaaaaagt gtctttgttt aaaaatactt ggcttctgaa ccttcctctg 180
tttttcccca ttggaactag tcatbaacuc atctctgaac tggtagaaca acatctgaag 240
agctagctctc ttagcatctg acaggtgaat tggatggctt tcagaacctt ttcctccaga 300
cagctgtgtt ctactctgtt taataaatta gtctgggttc tctacatgca taacaaacac 360
tgctccaatc tctcacataa aagtcctgtg ctggaagttt agtcagcacc cctcccaaac 420
tttatttttc tatgtgtttt ttagcaacata tgagtggttt gaaataaag tcccatgtc 480
tcta

```

484

<210> 435

<211> 424

<212> DNA

<213> Homo sapiens

<400> 435

```

ggcgcgctca ggcgagctca cttctctgct tccagctcct ccttcagga agcctcatgt 60
gggtatgctt caatatcgca gggtcttact cctctgctc tataagctca aacccacca 120
cgatcgggca agtaaacccc ctcctcgcc gacttcggaa ctggcgagag ttcagcgcag 180
atgggctctt ggggaggggg caagatagat ggggaggggc ggcatggtc ggggtgacct 240
cttgagaga ggaataaggg caaagagggg gctgcccagg ccaataaagg agatggcct 300
ggtagagacc tttgggggtc tggaaacctt ggaccccca tgcctcaact cctccactct 360
gctatcagaa acttaaaactt ggggacttct cctgttttct actgcaata aatcagagc 420
aaac

```

424

<210> 436

<211> 667

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1) ... [667]

<223> n = A, T, C or G

<400> 436

```

accttgggaa nactctcaca atataaaggg tcttagactt tactccaaat tcccaaaaagg 60
tcttggtcat gtaatcctga aagttttccc aaggtagcta taaaatcctt ataagggtgc 120
aguctcttct ggaattcttc tgatttcaaa gtctcactct caagtctctg aaaaagaggg 180
cagttcctga aaggtcaggt tagcaactga tcttcagaaa gaggaactgt gtgcacccgg 240
atgggtctgc agagtaggat aggtattcag atgtgacac ctctcggggg aaacagggct 300
gccaggtttg tcatagcact catcaaagtc cggctcaagc ctgtgcttcg aatataaacc 360
tgttcatgtt tataggactc attcaagaat tttctatctc tctttcttat atactctcca 420
agttctaat gctgctccat gccagctcgg gtgagttggc caaatccttg tggccatgag 480
gattctctta tgggtcagc gggaaagggt tcaatgggac ttcgggtctc atgccgaac 540
acraaagtc caaacttcaa ctcttggt agtaracttc ggtcttagca gaaaaaagg 600
agaaacaaag agccaaggct aaggctgct gacctgcaag gaggaggggt gcaagctctc 660
tgttgag

```

667

<210> 437

<211> 693

<212> DNA

<213> Homo sapiens

<400> 437

```

ctacgtctca accctcattt ctaygtatgg aatcttaagl ccaagatata taagtgaetc 60
acacagccag gtaaggaaag ctggattggc acactaggac tctaccatac cgggttttgt 120
taagctcag gttaggaggc tgaataagct ggaaggaaat tuagacagct ttccagatc 180
ataaagata attccttagc catgtttctt tccagagcag acctgaaatg acagcacagc 240
aggtaactct ctattttcac cctctttgct tctactctct ggcagtcaga cctgtgggag 300
gccctgggag aaugcagctc tctggatgtt tgaacagatc atggactatt ctctgtggac 360
catttctca ggtcacctc ggtgtacta ttggggggag agccagcacc tttagcttct 420
atttgagttt ctgtctgctt ccagttagag aaacttttgc tcttcacact tccatclga 480
acacctacct gctgttgctt ctgaggtggg gaaagacaga tatagagctt acgtattta 540
tctattttct aggaactgag ggctgtgggg taacttggcg tgccaaaava gatcctgttt 600
taaggacatg ttgcttcaga gatgtctgta actatctggg ggtctgttg gctctttacc 660
ctgcatcatg tgcctctctg gctgaaaatg acc

```

693

<210> 438

<211> 360

<212> DNA

<213> Homo sapiens

<400> 438

```

ctgcttatca caatgaatgt tctctgggc agcgttgtht tctttgccac ctctgtgact 60
ttatgcacag catcatgcta ttcatacct aatgagggag ttccagagaa ttcaaccagg 120
atgtttctac acctgtgggt tatgacaaag acaactggca aagatcttcc aagaaggagg 180
actgcaagta tctctgtgag agaagaaggc cccaaaaaag acctgttctg tcaagtgaatg 240
gataatctaa tgtgtttcta gtaggcacag ggctcccagg ccaggcctca ttctctctctg 300
gctcttaata gtcaataatt gtgtagccat gccctatcagt aaaaagattt ttgagcaaac 360

```

<210> 439

<211> 431

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(431)

<223> n = A,T,C or G

<400> 439

```

gttcctntta actcctgccg gaaacagctc tctcaacat gagagctgca cccctcctcc 60
tggccagggc agcaaggcct agccttggct tcttgtttct gctttttttc tggctagacc 120
gaagtgtact agccaaggag tgaagtctg tgactttggg gtttcggcat ggagccgaa 180
gtcccatfga cacctttccc actgacccca taaaggatc ctcatggcca caaggatttg 240
gccaaotcar ccagctgggc atggagcagc attatgaact tggagagtat ataaayaaaga 300
gatatagaan attcttgaat gactcctata aacatgaaca ggtttatatt cgaagcacng 360
acgttgaccg gactttgatg agtgcctatg caaaactggc agcccgctcg cgcggcggcg 420
aetttagtag t

```

431

<210> 440

<211> 523

<212> DNA

<213> Homo sapiens


```

<400> 440
agaggtttaa cttaggtcaa agttcataga gtcccatga actelctgac tggccacaca 60
ggatcttttg tctttaagga ttctgagatt ttgcttgggc aggattagat aaggtctgtc 120
tttaaatgtc tgaatggaa cagatttcaa aaaaaaacc cacaatctag ggtgggaaca 180
aygaagguaa gatgtgaata ggttgatggg caaaaaacc aattacccat cagttccagc 240
cttctctcaa ggaagggcaa agaaaggaga taaggtggag acatctggaa agtcttctcc 300
actggaaazc tgcactatc tgttttata tttctgttaa atatatgag gctacagaac 360
taaaatttaa aactctcttg tgcctctgg tcttggaaac ttatcttcc ttttaaaaga 420
acaaaaatca aactcttag aagatttga tgtatgtat acatatagca gctcttgaag 480
tatatactc atagaaata agtcactcga tggaaacaag cta 523

```

<210> 441

<211> 430

<212> DNA

<213> Homo sapiens

```

<400> 441
gttctctcta actcctgcaa gaaacagctc tctcaaat gagagctgca cccctctcc 60
tggucagggc agcaagcctt agccttggct tcttgttct gtttttttc tggctagacc 120
gaagtgtant agccaagga ttgaagttg tgaacttggc gtttcggcat ggagaccgaa 180
gtcccatgca cactttccc actgaaccca taagggaatc ctcatggcca caaggtttg 240
gccaactcac ccagctgggc atggagcagc attatgaac tggagagtac ataagaaga 300
gatacagaaa attcttgaat gagtccctat aacatgaaca ggtttatatt cgaagcacag 360
acgttgaacg gactttgacg agtgctatga caaacctggc agccctgcga cgcggccgcg 420
aattttagtag 430

```

<210> 442

<211> 362

<212> DNA

<213> Homo sapiens

```

<400> 442
ctanggaatt agtagtgtc ccactacttg ttggaggtgt gctattctaa aagattttga 60
tttcttqaa tycaattat atttcaact tgggtgggga aagagttata ggaccacagt 120
cttactttct gatacttgta attaatctt ttattgact tgttttgacc attaagetat 180
atgtttagaa atggtcatt tacggaaaa ttgaaaaat tctgataata gtgcagaata 240
aatgaattaa tgttttact attttatatt gaactgtcaa tgacaaataa aaattctttt 300
tgatbatttt ttgttttcat ttaccagaa aaaaactaag aettanaagt ttgatcacag 360
tc 362

```

<210> 443

<211> 624

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1) ... (624)

<223> n = A, T, C or G

<400> 443

```

tttttttttt gaaacacaat atacatcaca gtgaatgtg caatccttgc aaattgcaag 60
ttgaagaat taatatcaga ggaggggaga gaaagagtac tcagtaggga ctgagcacta 120
aatgcttatt tcaaaagaaa tgaagagagc agaaagcaat tcaagctacc ctgcttcttg 180
tgctggctag tactcagggtc ggtgtcagca gc cglagaa ttgaacattg caatgtggag 240

```

```

cccaaacacc agaaaatggg gtyaaattgg ccaacittct attaacttgg ttccctgttt 300
tatcaaatat tgtgaataat atcacctact tcaaaaggga gttatgaggc ttakatganc 360
taacgcctac aaancantra aacatagata acatagggtc aagtactatg tatctggta: 420
atggtaaaac tccctattat caaagtcacg gclaaatga atgtgtgtgc atatgcta: 480
agtacagaga gagggcactt aaaccaaata agggcctgga gggaaaggltt cctggaaaga 540
ngatgcttgt gctgggtcca aatcttggtc tactalgaac ttggccaaat tatctaaact 600
ttgtccctat ctgctaana galc

```

624

<210> 444

<211> 425

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(425)

<223> n = A,T,C or G

<400> 444

```

gcacatcatt mnccttgcat tctttgagaa taagaagatc agtaaatagt tcagaagtgg 60
gaagctttgt ccaggcctgt gtgtgaaccc aatgttttgc ttagaatag acaagtaag 120
ttcattgcta tagcataaca caaanatttgc ataagtggta gtacgcaat ctttgaalgc 180
tgcttaattg gagagggttg taaatcctt tgtgcaacac tctaactcc tgaatgttt 240
gctgtgctgg gaactgtgca tycagacaa gccaagctg gctgaagag caaccagca 300
cccttgcaat ctgcaactc ctgctggcag gatctgttt tgcactcctg gaagagcaa 360
ggaggcacca gggcataagt gagtugact atggtcgacg cggccgcgaa tctagtagta 420
gtaga

```

425

<210> 445

<211> 414

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(414)

<223> n = A,T,C or G

<400> 445

```

catgtttatg nttttggatt actttgggca cctagtgttt ctaaatcgtc tatcattctt 60
ttctgttttt caaaagcaga gatggccaga gtctcaacaa actgtatott caagtcctttg 120
tgaatttctt tgcattgtgg agattattgg atgtagtctt ctttaactag catatnaatc 180
tgggtgtgtt cagataaatt aacagcaaaa tgtggtggaa ttacatttg gaacattgtg 240
aatgaaaaat tgtgtctcta gatcatgtaa caataacta ttccctaacc attgatcttt 300
ggatttttat aatcctactc acaaatgact aggcctctcc tcttgtattt tgaagcagtg 360
tgggtgctgg attgataaaa aaaaaaaaag tgcargcggc cgcgaattta gtat 414

```

<210> 446

<211> 631

<212> DNA

<213> Homo sapiens

<220>

<221> misc_f ature

<222> (1)...(631)

<223> n = A,T,C or G

<400> 446

```

acaaattaga anaaagtgc agagaaracc acataacttg tccggaacat tacaatggct 60
tctgcatgca tgggaagtgt gaggatbcta tvaatatgca ggagccalcl tgcaggtgtg 120
atgctgggta lactggacaa cactgtgaaa aaaaggacta cagtgttcta tangltgttc 180
coggtcctgt argatttcag tagtctctaa tccgagctgt gattgggaca attcagattg 240
ctgtcatctg tctggtgttc ctctgcatca caagggccaa kutttaggta atagcatttg 300
actgagattt gtaactttc caaccttcaa ggaatgccc cagaagcaac agaattcaca 360
ganagagcca kaatcacagg cactacagtt cagacaalac aacagagcgg tccacgnggt 420
caatctaaag ggagcatgtt tccaggtggc tggactaccg agagcttggc ctacacaata 480
cagtatcata gacaaagaca taagacaaga gatctacaca tyttgcttg catttgttgt 540
aatctacacc aatgaaaaca tgtactacag ctatatttga tcatglatgg ctatatttga 600
aatagfatac attgtcttga tgttttttct g                                     631

```

<210> 447

<211> 585

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> {1}... (585)

<223> n = A,T,C or G

<400> 447

```

ccttgsgaaa antnlcaca tatnaaggt cgtagacttl actccanatt ccaaaaggt 60
cctggccatg taatcctgaa agtttccc agtagctat aaatcctta taaaggtgca 120
gctctctctg gaattcctct gatttcaag tctcactctc aagttcttga aaacgagggc 180
agtccctgan aggcaggtat agcaactgat ctccagaaag aggaactgtg tgcacccgga 240
tgggctgcca gaggaggata ggaatccaga tgcctgacac tcttggggga aacagggctg 300
ccagglttgt catagcactc atcaaggtcc ggtcaacgtc tgtgcttcca atctaaacct 360
gttcattgtt ataggactca tccaaagatt tcttatatct ctctcttata tactctccaa 420
gttcataatg ctgctccatg cccagctggg tgagtgggc aatccttgt ggccatgagg 480
attcctttat ggggtcagtg ggaaggtgt caatgggact tgggtctcca tgcggaaca 540
cnaagctcac aaattcaac tcttggcta gfacctctg gtcta                                     585

```

<210> 448

<211> 93

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> {1}... (93)

<223> n = A,T,C or G

<400> 448

```

tgcctgtggg tctttctgan nncggactg acctgcccg cctgcccga gggucnccat 60
ggctccttag tgccttgag agganggggc tag                                     93

```

<210> 449

<211> 706

<212> DNA

<213> Homo sapiens

<220>
 <221> misc_feature
 <222> {1}...{706}
 <223> n = A,T,C or G

<400> 449
 ccaagtttcac gctntgtgct ggacgctgga caggggggcaa aagcnnnttgc tegtgggtca 60
 ttctgancac cgaactgacc atgccagccc tggcagatggt cctccatggc tccctagtgc 120
 cctggagagg aggtgtctag t.cagagagta gtccctggaag gtcggtctctg ngaggagcva 180
 cggggacacgc atcctgcaga tggtcggggcg cgtcccatte gccattcagg ctgcgcaact 240
 gttgggaagg ggcattcggtg cgggcctctt cgtatattacg ccagctggcg aaagggggat 300
 gtgctgcgaag ggcattcaag tgggtaangc caaggttttc ccagtccgcg cgttctaaaa 360
 cgcgggccag tgaattgaat ttgagtgacn ctatagaaga gctatgacgt cgcattgcacg 420
 cgtacgtcaag cttggtctct cttagagcggc cgcctactac tactaaattc gcgggcgcgt 480
 cgcgtggga tcncactga ggaagtggag agtgacatgt gctggacnct gtccatgaaq 540
 nactgggcag aagctggagg cccaacgcnc cagcactca cagctactca agaggtgag 600
 nacaggttga acctgggagg tgggagttgc natgagctga gatcaggtcn ctgncctca 660
 gcatggatga cagcgtgaaa ctccatctta aaaaaa 706

<210> 450
 <211> 493
 <212> DNA
 <213> Homo sapiens

<400> 450
 gaggacggagt gtcactctgt tgcncagggt ggagtgcagc aagacactgt ctaagaaaaa 60
 acagttttaa aaggtlaaaa aacataaaaa gaaalatcct atagtggaaa taagagagtc 120
 aatagaggtc gagaacttta caaagggac caccagacat gtcgcacta taactgcacg 180
 agcctaagta taagaaacaa ctttggggag aaacacacat ttgacagtga ggtacaaattc 240
 cagctcaggt agtgaaatgg gtggcaattc actcaaatia atcctgccag ctgaacacga 300
 agagacactg tcagagaggt aaaaaagtga ttctatccat gagggtgattc cacagltctc 360
 tcaagtcac acatctgtga actcacagc caagttctta aaccactgtt caaactctgr 420
 taracatcag aatcacctgg agagctttac aaactccccl tggcaggggt cgaagcggcc 480
 gccaatttag tag 493

<210> 451
 <211> 501
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> {1}...{501}
 <223> n = A,T,C or G

<400> 451
 gggcgcgtcc cattcgccat tcaggctguy caactgttgg gaaggggcgt cgggtgcgggc 60
 ctcttcgctc ttacggcagc tggcgaaagg gggatgtgct gcaaggcgat taagtctgggt 120
 aagccaggg ttttcnaggt cncagcgttg caaaacgacg gcagctgaat tgaatttagg 180
 tgacnclata gaagagctat gacgtcgcat gvacgcgtac gtaagntlgg atcctctaga 240
 gggcgcgtcc actactcta aattcgcggc cgcgtcgcag tgggatccnc actgagagag 300
 tgggagagtg catgtgctgg acnctgtcca tgaagcactg agcagaagct ggaagtcacaa 360
 cgcncacagac actcacaggt actcaggagg ctgagacacg attgacctg ggaggtggag 420
 gttgcactga gctgagatca ggcncctgcn ccccgacatg gatgaragag tgaactcca 480

tcttaaaaaa aaaaaa00000 R

501

<210> 452

<211> 51

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(51)

<223> n = A,T,C or G

<400> 452

ggagcgtttc accnttaca cnccttttag gatgggnntt ggggagcaag c

51

<210> 453

<211> 317

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(317)

<223> n = A,T,C or G

<400> 453

tacatcttgc tttttccca ttggaantag tcatcaacc atctctgaac tggtaguaaa 60
 acatctgaag agctagtctc tcaacatctg gcaagtgaat tggatcgttc tcagaccat 120
 ttaccccane caguctgttt ctatcctgtt caataaatc gtttgggttc tctacatgca 180
 taacaaacc tgcaccaatc tgcacacaa aagtctgtga cttgcaagtt antcagcacc 240
 cccaccasac ttatatttct tatgtgttt ttgcaacata tgagtgttt gaaataagg 300
 taaccatgtc tttatta 317

<210> 454

<211> 231

<212> DNA

<213> Homo sapiens

<400> 454

ttccgggtac aatcaacttc cagcgtctag tttccttcta tagatgagtc agcattaata 60
 taagccacgc cagctcttg aaggagtctt gaattctcct ctgctcactc agtagaacca 120
 agaagacca attcttctgc atccagctc gcuaacaaaa ttgtctctct aggtcttcac 180
 ccttctcttt tcaagtgttc aaagctcctc acaatttcat gaacaacagc t 231

<210> 455

<211> 231

<212> DNA

<213> Homo sapiens

<400> 455

taccaaagag ggcataatca tcagtctcac agtagggctc accatcctcc aagtgaacaa 60
 cattgttccg aatgggtttt ccacaggtca cacacacaaa acaggaaaca tcgcaagttt 120
 gtttcaargc atgagtgact tctccaagga tcttcttllg gcatcgacca cattcagggg 180
 caaagaattt ctcatagcac agctcacuat acagggtctc tttctcctct a 231

<210> 456
 <211> 231
 <212> DNA
 <213> Homo sapiens

```
<400> 456
ttggcaggta ccttaccaga gaggacacca taccttatgc gttattaggt ggaataatca 60
ctccattccg tactatcggt attattcttg gaggaaacct gtctgtttac tgaaccttt 120
tgcactcaaa ttcttttatc aggaataact acataggcac cattacaaa ggcattggaa 180
cctttttatt tgggtgcagct gctcgtcagt cctgactga cattgcacag t 231
```

<210> 457
 <211> 231
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(231)
 <223> n = A,T,C or G

```
<400> 457
cggaggaacc aggggtctga aaatctctnn ttantagtc gatagcaaaa ttgttcata 60
gcattcctta atctgatttt gctataakta gattttcttc cattagagtc catcacgttt 120
tatttgattt tatttagcaat ctctttcaga agaccttga gatcattaag ctctgtatcc 180
agttgtctaa atcggatgct catttctctt ggggtctctc tggcttctgc g 231
```

<210> 458
 <211> 231
 <212> DNA
 <213> Homo sapiens

```
<400> 458
aggctctggt cccccactt ccautccct ctactctctc taggaactgg ctgggccaag 60
agaagagggg taattagggg agcrgttgag atctgaagcc ccacctcta ccttcttca 120
acacctcac cttgggtaac agcatttggg attatcattc gggatgagta gaatttcaa 180
ggtcctgggt taaggcattt gggggggccg acccaggag aagaagcttc t 231
```

<210> 459
 <211> 231
 <212> DNA
 <213> Homo sapiens

```
<400> 459
ggtacggagg ctgctgaca cagagaaacc ccaacgcgag gaaaggaatg gccagccaca 60
ccttcgagaa acctytggtg gccacacagc cttaacggga caggacagag agacagagca 120
gacctgcact gttttccctc caccacagcc atcctgtccu tcattggtct tgtgctttcc 180
actatccaca gtcacctcc caatgagaaa caaguaggag cccctccac a 231
```

<210> 460
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 460

```

gcagggtatca catgctycan caacagatgt gactaaggac ggccgggagac atggggagggg 60
cctatcacc cttctctggg gactgcttct tcacagtgat catgaagcct agcagcaaat 120
ccacactccc caccagcaca cggccagcct ggagcccaaa gaagggtcct cctgagcca 180
gtggagcttg gtccagcctc caglcacccc ctaccaggct caaggataga a 231

```

<210> 461

<211> 231

<212> DNA

<213> Homo sapiens

<400> 461

```

cgagggtttga gaagctctaa tgtgcagggg agccgagaag caggcggcct agggagggtc 60
gcgtgtgctc cagaaagagt tgtgcatgnc aggggggaaa caggcgcctg tgtgtcctgg 120
gtggggttca gtgaggagtg ggaatttggc tcagcagaac caagccgttg ggtgaataag 180
agggggatcc catggaactg atagagcctc atagtttcag agctgggaat t 231

```

<210> 462

<211> 231

<212> DNA

<213> Homo sapiens

<400> 462

```

aggtaccctc attgtagcca tgggaaaatt gatgttcagt ggggatcagt gaaltaaatg 60
gggtcatgca agtataaaaa ttaaaaaaa aagacttcat gcccaatctc atatgatgtg 120
gaagaaactgt tagagagacc aacagggtag tgggttagag atttcagag tcttacattt 180
tctagaggag gtatttaatt tttttcact cctcagctgt tgtatttagg a 231

```

<210> 463

<211> 231

<212> DNA

<213> Homo sapiens

<400> 463

```

tactccagcc tgggtgacaga aggagaccc atcaccgccc cccacccccc caaaaaaaan 60
actgagtaga caggtgtcct cttggcatgg taagtcttaa gtccctccc agatctgtga 120
catttgacag gtgtctttc ctctggaccc cgggtgtccc atctgagtga gaaaaggcag 180
tggggaggatg gatcttccag tcgaagcggc atagagccc gtgtgaaaag c 231

```

<210> 464

<211> 231

<212> DNA

<213> Homo sapiens

<400> 464

```

gtactctaa agtttatcta agctgccttc tctgggtggg aaagtctaac cttagtgact 60
aaggacatca catatgaga atgtttaagc tggaggtggc aacgtgaatt ycaaacaggg 120
cctgcttcag tgaactgttg cctgtagtc cagctactcg ggagtctgtg tgaagccagg 180
ggtagccagc caccagctag atgctctgta attctaggc cccattttcc c 231

```

<210> 465

<211> 231

<212> DNA

<213> Homo sapiens

<400> 465

```

catgtttgttg tagctgtgtgt aatgctggct gcatctcaga cagggttaac ttcagctcct 60
gtggcaaat agcaacaaat tctgacata tatttatggg ttctgtatct ttgttgatga 120
aggatggcac aatttttgc tgtgttcata atatactcag attagttcag ctucatcaga 180
taaactggag acatgcagga ctttagggta gtgttgtagc tctggtantg a 231

```

<210> 466

<211> 231

<212> DNA

<213> Homo sapiens

<400> 466

```

caggtacctc tttccattgg atactgtgct agcaagcatg ctctccgggg ttttcttaat 60
ggccctccaa cagaacttgc cacatccca ggtataatag tttctaactt ttgccaggga 120
cctgtgcaat caaatattgt ggagaaatcc ctagctggag aagtcacaaa gactataggt 180
ataaatggag aaccagterca caagatgaca acagctcgtt gtgtcgggct g 231

```

<210> 467

<211> 311

<212> DNA

<213> Homo sapiens

<400> 467

```

gtacacccctg gcacagtcac atctgaactg gttcggcact catctttcat gagatggatg 60
tggcggtttt tctccttttt catcaagct cttcagcagg gagccagac cagcctgcac 120
tgtgctttaa cagaagggtct tggattcta agtgggaatc atttcagtga ctgtcctgtg 180
gcctgggtct ctgcccaagc tctaatgag actatagcaa ggcggctgtg ggcgtcagt 240
tgtgacctgc tgggctccc aatagactaa caggcagtg cagttggcc caagagaaga 300
ctgcagcaga c 311

```

<210> 468

<211> 3112

<212> DNA

<213> Homo sapiens

<400> 468

```

cattgtgttg ggagaaadaa agaggggaga tttgtgtggc tgcagccgag ggagacagg 60
aagctctgca tgggtgggaag gacctgaltga tacagagttt gataggagac aattaaaggc 120
tggagggcac tggatgctg atgatgaagt ggactttcaa actggggcac tactgaanag 180
atgggatggc cagagacaca ggagatgagt tggagcagc tcaataaaca agtgggtcaa 240
cgaggacttg gaattgcctg gagctggagc tgaagttag cccaattgtt tactagttga 300
gtgaattgtg atgattggat gatcatttct catctctgag cttcagggtt cccatccata 360
aatgggata cacagtatga tctataaagt gggatatagt atgatctact tcautgggtt 420
atttgaaaga tgaattgaga laatttattt cagggtgcta gaacaatgoc cagattagla 480
catttgggtg aactgggaaa tggcataaca ccaaatltta tatatgtcag atgttactat 540
gattatcatt caatctcata gtttctgcat ggccaattt atctcactt gtgctcaca 600
aatlgaaat gtttaacaaag gaatctctgg tcttgggtaa tggctgagca ccaactgagca 660
tttccattcc agttggcttc ttgggtttgc tagctgcato actagtrate ttaataaat 720
gaagttttta cattctcca gtgatttttt tatctcact ttgaagatac tatgttatgt 780
gattaaataa agnacttgag aagaacaggc ltcattaaac ataaaatcaa tctagacgca 840
aatlttctgg atgggcaata cttatgttca caggaaatgc ttttaaatat gcagaaagata 900
attsaatggc atgggacaaa gtgaatcttt tagacttttt tttttttttt ggaagtatct 960
ggatgttctt tagtcaacta aaggagaact gaaaatagc agtgagtcc acatcatc 1020
acctgtgaga ttaaggctct ttgtggggaa ggaacaaagat ctgttaattt aaggtttct 1080
tccaaagcca agtctgaaat ttgaacata tcaaaagctt lcttcagac aaataatcta 1140
tagtacctct ttcttatggg atgcatttat gaaaatggt ggctgtcac atctagtca 1200

```



```

tttagctctc aaaaaggglc attttaagag aaagtlttct atctctatat ttattcctgt 1260
ggagggacag cattgtggct tggactllat aaggtcttta ttcgaatana taggtgagaa 1320
ataagaaagg ctgctgactt taccatctga ggcacacacat ctgctgaaat ggagntaatt 1380
aaatccacta gaaacagcaa gatgacaaat taatgtctaa gtgltgaat gtttttgcac 1440
atttccagcc cctttaasta tccacacaca cagggaagcau aaagggaagc acagagater 1500
ctgggagaaa tgcccggccg ccatctggg tcatcgatga gcclogccct gtgectggtc 1560
ccgcttctga ggggaaggac ttagaanaatg aattgctgtg ttccttaag gatggcagg 1620
aaawcagatv ctgttctgga tattatltt aaagggatta cagetttgan atgaagtcac 1680
aaagttagca ttacacacga gaggaaaca gatgagaaa tcttgatggc ttcaaaagac 1740
atgcacaaa ccaaatggaa tactgtgat gcatgaggca gccaaagctg ggaggagata 1800
accacggggc agagggtcag gattctggcc ctgclgctta aactgtgngt tctaaacca 1860
atcatttcac atttcaacc ctcaaaacaa agctgttgta atatctgate tctacgggtc 1920
cttctgggcc caacattctc tatatatcca gccacaccca ttttaatat ttagtccca 1980
gatutgtact gtgaccttct tactctgtat aatuuatata ctcatttgt tcaaaagccv 2040
ttcgtgttgc tgcctaaat gtactgtact gttlltcta aggagtgttc bggccagg 2100
gatctgtyna caggctggga agcactcaa gatctttcca gggttatct tactagcacu 2160
cagcatgac attacggagc gaattatcta atcaacatca tctcagtg ctctccat 2220
actgaattc atttccact ttgtgccc ttctcaagac ctcaaatgt cattccatta 2280
atatacagc attaatltt tttttacc ttctcaagac ctcaaatgt cattccatta 2280
ggaaillaa taatatattt gttttccag agtataaagt taaaatgctt agccttgtac tgcagctgt 2340
ctttgtttga tttttttct tanagccaca gcccttcccc atrectccag ccttatctgt catraccate aacccctccc 2520
atgacactaa acaaaatcta acttgaatt ccttgaacat gtcaaggcta cattattct 2580
tctgcttgag aagctcttcc ttgtcttta aatctagat gatgtaagt ttgnaaag 2640
ttgaactatct tacttcatgc aaagaaggga cactatagag atctatcacc acatgagaca 2700
gcaaatata aaagtgtaat ttgattata gagtttagat aaatatatga aethcaagag 2760
acacagagga atgtttatg gggcaggttt ytaugcctgg gatglgaagc aaaggcagg 2820
aacctcatag tactttatct aatatacttc atttctat ctctatcaca atatcnaacn 2880
agcttttca acgaattcat cagtgcacaa ccccaagggt aacctttatc catttcatgg 2940
tgagtgcgt ttagaatttt ggcaaatcat actggtcact tatutcaact ttgagatgt 3000
tttgtcttg tggtaattg anagaaatag ggcaactctg tgagccactl tagggttcac 3060
tcttggcaat aaagaattta caaagaycan aaaaaaaa aaaaaaaa aa 3112

```

<210> 469

<211> 2229

<212> DNA

<213> Homo sapiens

<400> 469

```

agctctttgt aaattcttta ttgcaggag tgaaccccaa agtggctcac aagagtgcct 60
tatttctttc aatlaactac aaggacaaac acatctcaaa gttgagataa gtyaccagta 120
tgatttggca aaattctaaa gcgactcac catgaaatgg ataaaggtta cctctgggga 180
tttgcactgc atgaattctg tgaaaagctt gttggtatatt gtgatagagc tagagaaatg 240
aagtatatta tataagatcc tatgaggttc cctgccttct cttcacatcc cagggttaca 300
aagtgacccc ataaacattc cctctgtggc tcttgcatct calatatttn tctaaactct 360
tataatcaa tactcttcta gtatttgcct tctcatgtga tgatgaatct calatgtgct 420
ccttcttctg atgaagtaag atagtcaact tttcaaaa cttacatrat tctagatcta 480
agagacaaag aagagcttct caggcagaag aaataatgta tgcctgacat yttcaaggaa 540
ttacaagtta gat.t.tgllt aggtgcctgg gaggggttga tgggtgatgac agalaaayct 600
ggggggatgy ggaagagctg tggclgtata cagcctcagt acaaayctaa gcattttaac 660
tttatactgg aaaaagaaatc aaacaaaggg gagggatcaa ggacttagtc atcttctgac 720
tggaacacaa atatatgtaat taatttccc targetcatg taacattgaa ttcttccagg 780
ttaaaaaaaa agtttaactc gtgatattaa tggaaatgaa ttttgagggtc ttgagaatgg 840
gcacaaaggt ggaatgaa tttcagtat ggcaagaca ctgaggtatga tgttgatlaa 900
atnattcaat cgtaatgac catgctgtgt gtaaglaagl ataaccttgg aaagatcttg 960

```

```

agatgcttcc cagcctgttc acagatcrrc tgggccaaga cactccctag gaaaaacagt 1020
cagctacata ttaggcragca acacgaaggg tctttgaaca aaatgagtaa tgttattcta 1080
cagtgtagaa aggtcavagt acagatctgg gaactaanta ttaaaaatga gtgtggctgg 1140
atatatggag aatgttgggc ccagaaggaa ccgtagagat cagatattac aacagctttg 1200
ttttgagggc tggaaatatg aaatgatttg gttatgaacy cacagttagg acagcagggc 1260
cagaatcccg accctctgcn ccgtggttat ctccrccra gcttggctgc ctcatgtcat 1320
cacagtattc cttttgttt gttgcatgtn ttgtgaagcc atcaagattt cctgtctgt 1380
tttctctcca ttggtaatgc tccctttgtg acttcatttc aaatctgtaa tccgttcaa 1440
ataaatatcc acaacaggat ctgttttccf gccatccct taaggaaacac atcaattcat 1500
tttctaattg ctttccctca caagcgggac caggccaragg gcgaggtcca tggatgccc 1560
aagatggggg ccgggcattt ctercagggg tctctgtgct tcttttctg ctccctgtgt 1620
gtgtggatat ttaagggggc tggaaatgtg caaaacatg tcactactta gacatttat 1680
tgtcatcttg ctgttcttag tgatgttaat tatctccatt tcagcagatg tgtggcctca 1740
gatgttaaa tccagcagct tctctatttc tcaactggaa atactacga ccatttgagg 1800
agacaaatgg caagytgtca gcataccctg aacttgagtt gagagctaca cacaatatta 1860
ttgttttccg agcaccacaa acacccctcc tgtttcttca ctgggcacag aattttaata 1920
cttatttcag tgggctgttg gcaggaacaa atgaaacat ctacataaay tcaatagtgc 1980
agtgcctgac acacaccatt ctcttgaggt cccctctaga gatccacacg gtcctatgac 2040
ttcttggggg gcagtggtct acacctgtaa tccagcact ttgggaggct gaggcaggtg 2100
ggctacctga ggtcaggagt tcaagacacg cctggccaat atggtgaaac cccatctcta 2160
ctaaaaatac aaatattagc tgggcgtgct ggtgcctgac tgaatccca gcuccacac 2220
aatggcaat. 2229

```

<210> 470

<211> 2426

<212> DNA

<213> Homo sapiens

<400> 470

```

gtaaattctt tatfgccagg agtgaacct aaagtggctc acaagagtgc cctattttctt 50
tcaattcaact acaaggacaa acacatctca aagttgagat aagtgaccag tatgatttgc 120
caaaattcta aagcgcactc accatgaat ggataaaggc tacccttggg gatttgcaat 180
gcatgaattc tgtgaaagc ttgttggata ttgtgacaga gatagggaaa tgaagtatct 240
tatataagat actatgggt tccctgctt tgcttccac ctccaggctta caaacgtgcr 300
ccataaacat tccctctgtg gctcttgcac ttcatatatt tatctaaact ctataatca 360
aattacactt ttagtatbtg ctgtctcatg tgatgatgaa tctcatatgt gtccctctt 420
tgcattgaagc aagatagtca acttatccaa aactttacat cattctagat ttaagagaca 480
aggaagagct tctcaggcag aaygaataat gtatgcctga catgttcaag gaattacazg 540
ttagatlttg tttaggtgca tgggaggggt tgatgggtgat gacagataay gctggaggga 600
tggggagagg ctgtggctgt atacagctc agtacaaggc taagcatttt aactttatac 660
tggaaaaaaa atcaaacaaa ggggagggat aaaggactta gtcatcttg ractggaaaa 720
caaaatatgt aattcaattc ccatagetgc atgtaacatt gaattcttcc aggttaaaaa 780
aaaaagttaa tctgttgata ttaattggat gacattttga ggtcttgaga atgggcacaa 840
aagtgggaaa tgaatttcag tatgggcaa gacactgagg atgatgttga tttagataatt 900
cactccgtta tgatcatgct gtgtgttagt aagtataacc ctggaaagat cttagatgc 960
tcccragcct gttccacgat cccctgggcr ayaaacactc ttaggaaaaa cagtcagcta 1020
cataattaggc agcaacacya aggtctttt aacaaatga gtaatgttat tctacagtgt 1080
ageaagggtca cagtacagat ctgggaacta atatttaaaa atgagtggtg ctggatatat 1140
ggagaatgtt gggccacaaa ggaacgttag agatcayata ttacaacagc tttgttttga 1200
gggttagaaa tatgaattga ttgtttatg aargcagat ttaggcagca gggccagaat 1260
cctgaccctc tggcccggtg ttatctctcc ccagcttgg ctgacctcaty tcatcacagt 1320
attccatttt gtttgttgca tgtcttgtga agccatcaa attttctctgt ctgatttctt 1380
ctcat.tgggt.a atgtccactt tgtgacttca ttcaaatct gtaatccugt tcaaatcaat 1440
atccacaaca ggaatctgtt. tctgcccac cctttaaggga acacatcaat tcaattttcta 1500
atgtcttcc utcaaacgca ggaacaggca cagggcagag ctcatcgatg aaccaagatg 1560

```

```

ggggccggggc atttctccca gggatcctctg tgettccttt tglgcttcoct gtgtgtgtgtg 1620
atatttcaag gggctgggaa tctgcaaaaa catgltcauta cttagacattt atattgtcat 1680
cttgcctgttt ctagtcatgt taattatctc catttcagca galgtgtgtgc ctragalgt 1740
aaagtcagca gcttctctta tttctcactt ggaaatctat acgaccattt ggggagacaa 1800
atggcgaagg gtccgcctac cctggaactt agttgagagc tacacacaaat attatlggtt 1860
tccgagcacc acaaacaccc tctctgtttc ttcactgggc acagaatttt aatctctatt 1920
tcagtcgggt gtctggcagg acaaatgaa gtatctacat aaagtcaata gtgcagtgtc 1980
tgacacacac catctctctt aggtcccttc tagagatctc acaggtcata tgaattcttg 2040
ggggagcagtg gctcacacct gtaatccctg cactttggga ggttgaggca ggtgggtcac 2100
ctgaggtcag gatttcaaga ccagctggc caalatgtgt anaccctatc tctactaaaa 2160
atacaaaaat tagctgggc tgcctgtgat tgcctgtgat gggaggttgc gtgagctgta attgtgcat 2280
aggcaggaga attgctggga catggggag agagtggaac tctgtttcca aaaaaaaac aaacaaaaa 2340
tgcatctgaa cctgggcgac agagtggaac tctgtttcca aaaaaaaac aaacaaaaa 2400
ggcatagtca gatcacacgt ggtgggatg tgcctgtgat agcaggatal aaggggcatg 2426
gggtgagcgt tttgcccac acaatg

```

<210> 471

<211> 812

<212> DNA

<213> Homo sapiens

<400> 471

```

gaacaaaatg agtaatttta ttctacagtg lggaaaggtr acagtacaga tctgggaant 60
aaatattaaa aatgagtggt gctggatata tggagaatgl tgggcccaga aggaacagta 120
gagatcagat attacacacg ctttgttttg agggttagaa atatgaatg atttgggtat 180
gaacgacacg tttaggcagc agggccagaa tctgacccr ctgcccctg gttatctct 240
ccccagcttg gctgctcal gtatcacag tatccattt tgtttgttgc atgtcttgt 300
aagccatcac gattttctct tctgtttctc tctcattggt aatgtcact ttgtgactc 360
atttcaaatc tgaatcccg ttcaatnaa tatccacac aggatctgtt ttcctgccc 420
tcttctcagg aacacatcaa ttratttctc aatgtcctc cctcacacac gggaccaggc 480
acagggcgag gtcacatgat gacccaagat ggcggccggg catttctctc agggatctct 540
gtgcttctct tctgtctctc tgtgtgtgtg gatattttaa ggggctggaa atgtgcaaaa 600
aatgtcact aattagacat tatattgtca tcttgctgtt tctagtgat ttaattctct 660
ccatttcagc agctgtgtgt cctcagatgg taaagtcagc agccttctct atttctcaac 720
tctgtatcat caggtctctc ccaccatgca gatcttctg gtctcctctg gctgcagaca 780
cacaaatctc cctctctttt ttctgatgrr ag

```

812

<210> 472

<211> 515

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> {1}... (515)

<223> n = A, T, C or G

<400> 472

```

araggagactt attttctgat attgtctgca tatgtatgtt tttaagagtc tggaaatagt 60
cttatgactt tctatctctg cttatttaata aalcatcacg cccagagagc atgaaatgg 120
gttccagaaat tattggctct tgcagcccg tgaatctca caagaggaa caccacatga 180
caatcaggat attgaaatgt gacaaagagc agaaaggaca ccttcagatc agaacgtaa 240
agtgaaggtt gattgcccag aatgtgatct ggaagaagac cggagtgagc gtggagatgt 300
ctctgatgta aagagagaga ctccacctaa tcttaagcat gctaaagata aagagcagg 360
agctgggcag ccatagttt aaaaagagac aagctgaagr laaacacatg gctgatgtca 420

```

0attgzznat gtgactgaaa attt.gaaat tctctcaata aagtttgagt ttt.ctctgaa 480
gaaaaaaa naaaaaaa aaaaaaa aaaa
515



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification: C12N 15/12, C07K 14/47, C12Q 1/68, A61K 39/395, G01N 33/68, 33/574, C07K 16/30, C12N 15/62, 5/02 // A61P 35/00	A3	(11) International Publication Number: WO 00/04149 (43) International Publication Date: 27 January 2000 (27.01.00)																					
(21) International Application Number: PCT/US99/15838 (22) International Filing Date: 14 July 1999 (14.07.99) (30) Priority Data: <table border="0"> <tr> <td>09/115,453</td> <td>14 July 1998 (14.07.98)</td> <td>US</td> </tr> <tr> <td>09/116,134</td> <td>14 July 1998 (14.07.98)</td> <td>US</td> </tr> <tr> <td>09/159,822</td> <td>23 September 1998 (23.09.98)</td> <td>US</td> </tr> <tr> <td>09/159,812</td> <td>23 September 1998 (23.09.98)</td> <td>US</td> </tr> <tr> <td>09/232,880</td> <td>15 January 1999 (15.01.99)</td> <td>US</td> </tr> <tr> <td>09/232,149</td> <td>15 January 1999 (15.01.99)</td> <td>US</td> </tr> <tr> <td>09/288,946</td> <td>9 April 1999 (09.04.99)</td> <td>US</td> </tr> </table> (71) Applicant: CORIXA CORPORATION [US/US]; Suite 200, 1124 Columbia Street, Seattle, WA 98104 (US). (72) Inventors: DILLON, Davin, Clifford; 21607 N.E. 24th Street, Redmond, WA 98053 (US). HARLOCKER, Susan, Louise; 6203 20th Avenue N.W., Seattle, WA 98107 (US). YUQIU, Jiang; 5001 South 232nd Street, Kent, WA 98032 (US). XU, Jiangchun; 15805 S.E. 43rd Place, Bellevue, WA 98006 (US). MITCHAM, Jennifer, Lynn; 16677 Northeast 88th Street, Redmond, WA 98052 (US).		09/115,453	14 July 1998 (14.07.98)	US	09/116,134	14 July 1998 (14.07.98)	US	09/159,822	23 September 1998 (23.09.98)	US	09/159,812	23 September 1998 (23.09.98)	US	09/232,880	15 January 1999 (15.01.99)	US	09/232,149	15 January 1999 (15.01.99)	US	09/288,946	9 April 1999 (09.04.99)	US	(74) Agents: MAKI, David, J. et al.; Seed and Berry LLP, 6300 Columbia, 701 Fifth Avenue, Seattle, WA 98104-7092 (US). (81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> (88) Date of publication of the international search report: 20 July 2000 (20.07.00)
09/115,453	14 July 1998 (14.07.98)	US																					
09/116,134	14 July 1998 (14.07.98)	US																					
09/159,822	23 September 1998 (23.09.98)	US																					
09/159,812	23 September 1998 (23.09.98)	US																					
09/232,880	15 January 1999 (15.01.99)	US																					
09/232,149	15 January 1999 (15.01.99)	US																					
09/288,946	9 April 1999 (09.04.99)	US																					
(54) Title: COMPOSITIONS AND METHODS FOR THERAPY AND DIAGNOSIS OF PROSTATE CANCER (57) Abstract <p>Compositions and methods for the therapy and diagnosis of cancer, such as prostate cancer, are disclosed. Compositions may comprise one or more prostate tumor proteins, immunogenic portions thereof, or polynucleotides that encode such portions. Alternatively, a therapeutic composition may comprise an antigen presenting cell that expresses a prostate tumor protein, or a T cell that is specific for cells expressing such a protein. Such compositions may be used, for example, for the prevention and treatment of diseases such as prostate cancer. Diagnostic methods based on detecting a prostate tumor protein, or mRNA encoding such a protein, in a sample are also provided.</p>																							

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
AU	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav Republic of Macedonia	TM	Turkmenistan
BF	Burkina Faso	GR	Greece			TR	Turkey
BG	Bulgaria	HU	Hungary	ML	Mali	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MN	Mongolia	UA	Ukraine
BR	Brazil	IL	Israel	MR	Mauritania	UG	Uganda
BY	Belarus	IS	Iceland	MW	Malawi	US	United States of America
CA	Canada	IT	Italy	MX	Mexico	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NE	Niger	VN	Viet Nam
CG	Congo	KE	Kenya	NL	Netherlands	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NO	Norway	ZW	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's Republic of Korea	NZ	New Zealand		
CM	Cameroon			PL	Poland		
CN	China	KR	Republic of Korea	PT	Portugal		
CU	Cuba	KZ	Kazakstan	RO	Romania		
CZ	Czech Republic	LC	Saint Lucia	RU	Russian Federation		
DE	Germany	LI	Liechtenstein	SD	Sudan		
DK	Denmark	LK	Sri Lanka	SE	Sweden		
EE	Estonia	LR	Liberia	SG	Singapore		

INTERNATIONAL SEARCH REPORT

International Application No

PCT/JS 99/15838

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12N15/12 C07K14/47 C12Q1/68 A61K39/395 G01N33/68
 G01N33/574 C07K16/30 C12N15/62 C12N5/02
 //A61P35/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12N C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 97 33909 A (CORIXA CORP) 18 September 1997 (1997-09-18) the whole document ---	1-22, 29-31, 35-49, 53-79
A	SJOGREN H O: "Therapeutic immunization against cancer antigens using genetically engineered cells" IMMUNOTECHNOLOGY, vol. 3, no. 3, 1 October 1997 (1997-10-01), pages 161-172, XP004097000 ISSN: 1380-2933 the whole document --- -/-	23-28, 32-34, 53-57

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

31 January 2000

Date of mailing of the international search report

04.05.00

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
 Fax: (+31-70) 340-3016

Authorized officer

ANDRES S.M.

INTERNATIONAL SEARCH REPORT

International Application No

PC1, JS 99/15838

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	CHU R S ET AL: "CPG OLIGODEOXYNUCLEOTIDES ACT AS ADJUVANTS THAT SWITCH ON T HELPER 1 (TH1) IMMUNITY" JOURNAL OF EXPERIMENTAL MEDICINE, vol. 186, no. 10, 1 November 1997 (1997-11-01), pages 1623-1631, XP002910130 ISSN: 0022-1007 the whole document	14-20, 25-27, 41-47
A	EP 0 317 141 A (BECTON DICKINSON CO) 24 May 1989 (1989-05-24) the whole document	50-52
A	ZITVOGEL L ET AL: "Eradication of established murine tumors using a novel cell-free vaccine: dendritic cell-derived exosomes" NATURE MEDICINE, vol. 4, no. 5, 1 May 1998 (1998-05-01), pages 594-600, XP002085387 ISSN: 1078-8956 cited in the application	
P,X	WO 98 37093 A (CORIXA CORP) 27 August 1998 (1998-08-27) page 3, line 20 -page 22, line 2 page 35, line 9 - last line page 76, line 34 -page 78, line 22 claims	1-15, 17-19, 21,22, 29-31, 34,35, 39-42, 44-46, 48,49, 58-79
P,X	WO 98 37418 A (CORIXA CORP) 27 August 1998 (1998-08-27) page 2 -page 24 example 2 page 35, line 15 -page 36, line 11 page 81, line 14 -page 83, line 11 claims	1-15, 17-19, 21,22, 29-31, 34,35, 39-42, 44-46, 48,49, 58-79

INTERNATIONAL SEARCH REPORT

In ternational application No.

PCT/US 99/ 15838

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
Remark: Although claims 29-34, 48-49, 52, 55-57
are directed to a method of treatment of the human/animal
body, the search has been carried out and based on the alleged
effects of the compound/composition.
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such
an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all
searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment
of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report
covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is
restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-79 all partially

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

.....

Invention 1. Claims: 1-79 (all partially)

A polypeptide comprising at least an immunogenic portion of a prostate tumor protein defined as SEQ ID 108 and which is encoded by the related SEQ IDs 2,3,107 (according to the Description of the Sequence Identifiers), fragments and variants thereof, fusion proteins comprising it, polynucleotides or oligonucleotides derived therefrom, antibodies or fragments thereof binding to the polypeptide, pharmaceutical compositions or vaccines comprising these products and their use in methods for inhibiting, monitoring or diagnosing the development of a prostate cancer, for removing tumor cells from a sample or for expanding and/or stimulating T-cells.

Inventions 2. to 439. Claims: 1-79 (all partially and as far as applicable)

As for subject 1. but concerning respectively SEQ IDs 1,4-106,109-111,115-171,173-175,177,179-305,307-315,326,328, 330,332-335,340-375,381,382 and 384-472.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/JS 99/15838

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9733909 A	18-09-1997	AU 2329597 A BR 9708082 A CA 2249742 A EP 0914335 A NO 984229 A US 6034218 A	01-10-1997 27-07-1999 18-09-1997 12-05-1999 13-11-1998 07-03-2000
EP 0317141 A	24-05-1989	US 5041289 A AT 108659 T DE 3850745 D DE 3850745 T ES 2059537 T JP 2002345 A	20-08-1991 15-08-1994 25-08-1994 24-11-1994 16-11-1994 08-01-1990
WO 9837093 A	27-08-1998	AU 6181898 A NO 994069 A ZA 9801585 A	09-09-1998 22-10-1999 04-09-1998
WO 9837418 A	27-08-1998	AU 6536898 A EP 0972201 A ZA 9801536 A	09-09-1998 19-01-2000 08-01-1999

